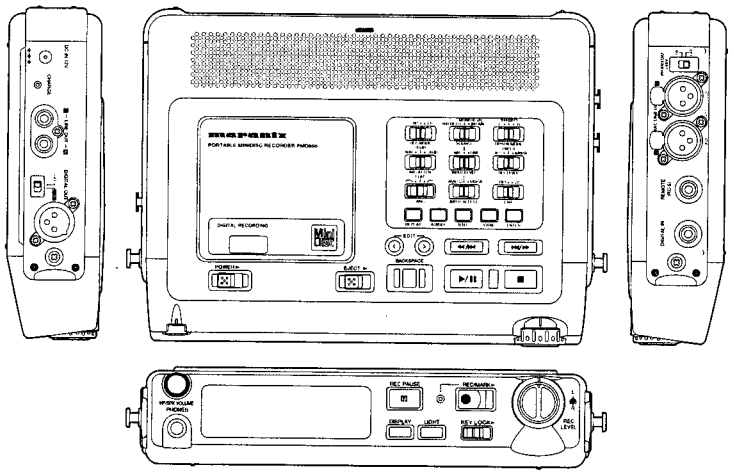
Service Manual

74 PMD650 /00B
PMD650 F B, U BL
Portable Mini Disc Recorder

PMD650



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Please use this service manual with referring to the user guide (D.F.U.) without fail.
修理の際は、必ず取扱説明書を準備し操作方法を確認の上作業を行ってください。

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PMD650

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SHOCK, FIRE HAZARD SERVICE TEST :

CAUTION : After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.

Ref. UL Standard No. 813.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

1. TECHNICAL SPECIFICATIONS

DIGITAL AUDIO SYSTEM

System

MiniDisc digital audio system

Disc

MiniDisc

Recording method

Magnetic field modulation, overwrite system

Reading method

Non-contact optical pickup (using semiconductor laser)

Laser

Semiconductor laser

Laser Diode Properties

Material: GaAlAs

Wavelength: 780 nm

Record/playback time

SP mode (stereo): 80 minutes max.

LP mode (mono): 160 minutes max.

Revolutions

Approx. 400~900 rpm (CLV)

Error Correction

ACIRC (Advanced Cross Interleave Reed-solomon Code)

Sampling frequency

44.1 kHz (32 kHz and 48 kHz signals converted to 44.1 kHz for recording)

Coding

ATRAC (Adaptive Transform Acoustic Coding)

Modulation System

EFM (Eight-to-Fourteen Modulation)

Number of channels

2 (stereo) or 1 (mono)

AUDIO SPECIFICATIONS

Frequency Response

20 Hz ~ 20 kHz

Signal-to-Noise Ratio (IEC-A weighted)

85 dB

Total Harmonic Distortion (at 0 VU)

0.02%

Dynamic Range

85 dB

Headphone Output Power

15 mW /32 ohms

Speaker Output Power

200 mW

Phantom Power

+48V, 5 mA

Inputs:

Reference level: -12 dB (Full scale 0 dB)
0 dBu = 0.775 Vrms

(MIC/LINE IN L/R)

Type: XLR (1: GND, 2: HOT, 3: COLD)

Input sensitivity (MIC): -60 dBu/9 kilohms

Input sensitivity (LINE): -20 dBu/47 kilohms

(DIGITAL IN)

Type: coaxial (RCA) jack

Input impedance: 75 ohms

Input level: 0.5 Vp-p

Outputs:

(LINE OUT L/R)

Type: RCA jack

Output level: 2 Vrms max./2 kilohms

(DIGITAL OUT)

Type: XLR

Output impedance: 110 ohms

Output level: 3.3 Vp-p

GENERAL

Power Supply

DC 13 V

Power Consumption

Recording: 5.5 W

Standby: 3.5 W

Dimensions (W x H x D)

264 x 54.8 x 185 mm

Weight (without battery)

1.3 kg (2 lbs. 14 oz.)

Accessories

AC adaptor :

DA600PMDF [F version]

DA600PMDU [U version]

Battery holder: 1

Carrying Strap: 1

User Guide: 1

Optional Accessories

AC adaptor :

74 DA600/02B, 74 DA600/05B : [N version]

NiCd Battery Pack (RB1100)

Carrying Case (74CLC650/09B)

Manufactured under license from Dolby Laboratories Licensing Corporation.

Specifications subject to change without notice.

2. SERVICE MODE

2-1. PRECAUTIONS FOR USE OF SERVICE MODE

1. As loading related operations will be performed regardless of the SERVICE MODE operations being performed, be sure to check that the disc is stopped before setting and removing it. Even if the **EJECT** switch is slid while the disc is rotating during continuous playback, etc., the disc will not stop rotating. Therefore, it will be ejected while rotating. Be sure to slide the **EJECT** switch after pressing the **STOP** button and the rotation of disc is stopped.
2. The erasing-protection tab is not detected in the SERVICE MODE. Therefore, when operating in the recording laser emission mode and pressing the **REC** button, the recorded contents will be erased regardless of the position of the tab. When using a disc that is not to be erased in the SERVICE MODE, be careful not to **ENTER** the continuous recording mode and traverse adjustment mode.

2-1-1. Recording Laser Emission Mode and Operating Button

1. Continuous recording mode (CREC MODE)
2. Traverse adjustment mode (EFBAL ADJ)
3. Laser power adjustment mode (LDPWR ADJ)
4. Laser power check mode (LDPWR CHK)
5. When pressing the **REC** button.

2-2. HOW TO CONFIRM THE VERSION OF MICROPROCESSOR

1. Confirm the product with Power Off.
2. While holding the **FF/NEXT** button, at the same time slide the **POWER** switch.
3. And, the display shows "Ver=M@@S@@" (the version of microprocessor. M:QL04 S:QU01).
4. When the display shows the version of microprocessor, slide the **POWER** switch. Then the product will be in normal mode.

2-3. HOW TO SET THE SERVICE MODE

1. Confirm the product with Power Off.
2. While holding the **PLAY/PAUSE** button, at the same time slide the **POWER** switch (At this moment the display shows "Test Mode?" with blinking.).
3. Press the **ENTER** button.
4. It will be the service mode. Then the display shows "TEMP ADJ" (the first content of table 2-2).

2-4. HOW TO STOP THE SERVICE MODE

Slide the **POWER** switch.

2.サービスモード

2-1. サービスモード使用時の注意

1. ローディング関係の動作が、サービスモードの動作とは全く無関係に働くので、必ずディスクが停止したことを確認してからディスクの出し入れを行ってください。連続再生中等ディスクが回転中に **EJECT** スイッチをスライドしてもディスクの回転は停止しません。従って、ディスクが回転された状態でイジェクトされますので、必ず **STOP**ボタンを押してディスクの回転が止まってから **EJECT** スイッチをスライドしてください。
2. サービスモード時は、誤消去防止つめの検出を行いません。そのため次の項目に示す " 記録用レーザーが発光するモード" での作業および、**REC**ボタンを押した時は、つめの位置の関係なくそれまでの記録内容が消去されます。従って、消去してはいけないディスクをやむをえずサービスモード時に使用する場合、連続録音モードおよびトラバース調整モードに入らないように注意してください。

2-1-1.記録用レーザーが発光するモードおよびボタン操作

1.連続録音モード(CREC MODE)
2.トラバース調整モード(EFBAL ADJ)
3.レーザーパワー調整モード(LDPWR ADJ)
4.レーザーパワー確認モード(LDPWR CHK)
5. RECボタンを押した時

2-2.マイコンバージョンの確認方法

1. Power OFFの状態にします。
2. まず、**FF/NEXT**ボタンを押しながら、さらに、Power ONすると、ディスプレイに「Ver=M@@S@@」とマイコンのバージョンが表示されます。(M:QL04 S:QU01)
3. マイコンバージョン表示のときは、一度 Power OFF するまで通常動作になりません。

2-3.サービスモードの設定方法

1. Power OFFの状態にします。
2. まず、**PLAY**ボタンを押しながら、次に Power ON すると、ディスプレイに「Test Mode?」と点滅します。
3. **ENTER** ボタンを押すとサービスモードになります。
4. この時、ディスプレイ表示は表2-2の1行目「TEMP ADJ」が表示されます。

2-4. サービスモードの解除方法

Power OFFします。以後通常動作になります。

2-5. BASIC OPERATIONS OF THE SERVICE MODE

All operations are performed using the **STOP** button, **ENTER** button, and **EDIT(<, >)** buttons. The functions of these buttons are as follows.

Table 2-1.

Button	Function
EDIT(<, >) button	Changes parameters and modes.
ENTER button	Finalizes input.
STOP button	Stops operations.

2-6. SELECTING THE SERVICE MODE

Nine SERVICE MODEs are selected by using the **EDIT(<, >)** buttons.

Table 2-2.

Display	Contents
TEMP ADJ	Temperature compensation offset adjustment
LDPWR ADJ	Laser power adjustment
LDPWR CHK	Laser power check
EFBAL ADJ	Traverse (E-F balance) adjustment
FBIAS ADJ	Focus bias adjustment
FBIAS CHK	Focus bias check
CPLAY MODE	Continuous playback mode
CREC MODE	Continuous recording mode
EEP MODE	Non-volatile memory mode (✱1)

- For detailed description of each adjustment mode, refer to the " MD UNIT ELECTRICAL ADJUSTMENTS".
- If a different adjustment mode has been selected by mistake, press the **STOP** button to exit from it.

✱1: The EEP MODE is not used in servicing. If set accidentally, press the **STOP** button immediately to exit it.

2-7. EEP MODE

This mode reads and writes the contents of the non-volatile memory.

It is not used in servicing. If set accidentally, press the **STOP** button immediately to exit it.

2-8. FUNCTIONS OF OTHER BUTTONS

Table 2-3.

Button	Contents
▶▶	The sled moves to the outer circumference only when this is pressed.
◀◀	The sled moves to the inner circumference only when this is pressed.

Note : The erasing-protection tab in not detected during the SERVICE MODE. Recording will start regardless of the position of the erasing-protection tab when the REC button is pressed.

2-5. サービスモードの基本操作

全ての操作は **STOP** ボタン、**ENTER**ボタンおよび **EDIT(<, >)** ボタンので行います。

表 2-1にそれぞれの機能を記します。

表 2-1

ボタン	機能
EDIT(<, >) ボタン	パラメータおよびモードの変更
ENTER ボタン	確定する。
STOP ボタン	中断する。項目選択に戻る

2-6. サービスモードの選択

サービスモードは表 2-2に示す 9 項目があり、各テストモードの選択は **EDIT(<, >)**ボタンで選択します。

表 2-2

ディスプレイ表示	機能
TEMP ADJ	温度補償オフセット調整
LDPWR ADJ	レーザーパワー調整
LDPWR CHK	レーザーパワー確認
EFBAL ADJ	トラバース(E-F バランス)調整
FBIAS ADJ	フォーカスバイアス調整
FBIAS CHK	フォーカスバイアス確認
CPLAY MODE	連続再生モード
CREC MODE	連続録音モード
EEP MODE	不揮発性メモリモード*1

- 各調整モードの詳しい説明は、" MD ユニット電気調整" の各項目を参照してください。
- 誤って別の調整モードに入ってしまった場合は、**STOP** ボタンを押しそのモードから抜けてください。

＊1: EEP MODE は、各調整時自動処理されるので、このモードを直接選択しないでください。誤ってこのモードに入ってしまった場合はすぐに、**STOP**ボタンを押してこのモードから抜けてください。

2-7. EEPモード

EEP モードは不揮発性メモリの内容の読み書きを行うモードですが、このモードは各調整時自動処理されるので、このモードを直接選択しないでください。

従って、誤ってこのモードに入ってしまった場合はすぐに、**STOP**ボタンを押してこのモードから抜けてください。

2-8. その他のボタンの機能

表 2-3

ボタン	機能
▶▶	ボタンを押している間だけスレッドが外周方向に動く。
◀◀	ボタンを押している間だけスレッドが内周方向に動く。

注意 : サービスモード時は、誤消去防止つめの検出を行いません。REC ボタンを押すと誤消去防止つめの位置に関係なく録音されますので注意してください。

3. MD MODULE(KML-252 with PCB) ELECTRICAL ADJUSTMENTS

3-1. PRECAUTIONS FOR CHECKING LASER DIODE EMISSION

To check the emission of the laser diode during adjustments, never view directly from the top as this may cause loss of eyesight.

3-2. PRECAUTIONS FOR USE OF OPTICAL PICK-UP

As the laser diode in the optical pick-up is easily damaged by static electricity, solder the laser tap of the flexible board when using it.

Before disconnecting the connector, de-solder first. Before connecting the connector, be careful not to remove the solder. Also take adequate measures to prevent-damage by static electricity. Handle the flexible board with care as it breaks easily.

3.MD モジュール(KML-252 with PCB) 電気調整

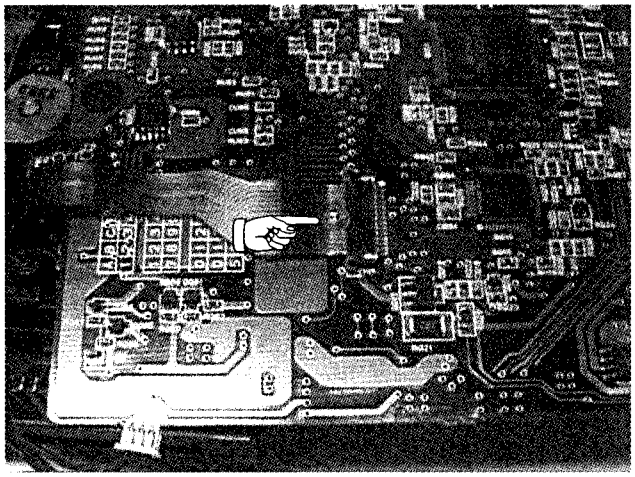
3-1. レーザーダイオード発光確認時の注意

調整時にレーザーダイオードの発光を確認する場合は失明のおそれがありますので絶対に真上から覗かないでください。

3-2. 光ピックアップ取扱時の注意

光ピックアップ内のレーザーダイオードは非常に静電破壊し易いため、取扱時はフレキシブル基板のレーザータップを半田ブリッジしてください.

コネクタから外す時は、事前に半田ブリッジをしてから外してください。またコネクタを差す前に半田ブリッジをとらないように注意してください。また静電破壊を防止する対策を充分に行い作業してください。フレキシブル基板は切れ易いので取扱に注意してください.



Optical pick-up flexible board

3-3. PRECAUTIONS FOR ADJUSTMENTS

1. When replacing the following parts, perform the adjustments and checks with O in the order shown in the following table.

Notes:

The following tools and measuring devices are necessary for the adjustments.

- Laser power meter (TQ8210)
- Optical sensor (TQ82017)
- Oscilloscope (Measure after pre-forming CAL of prove.)
- Jitter meter
- Thermometer

If you cannot prepare them, please replace the adjusted MD module <Part Number : ZZ409S3010> (refer to "5. HOW TO DISASSEMBLE Fig.15").

3-3. 調整時の注意

1. 下記の部品を交換した時は、○印の調整、確認を下記表の順番で行ってください.

注意：

以降の調整を行うには、下記の治具、測定器が必要です。

- レーザーパワーメータ (アドバンテスト TQ8210)
- オプティカル センサー (アドバンテスト TQ82017)
- オシロスコープ
  (プローブのCALを行ってから測定してください.)
- ジッターメータ
- 寒暖計

上記の治具、測定器がない場合には、調整済の MD モジュール < Parts Number : ZZ409S3010 > (5. 分解方法の Fig.15を参照)の交換を行ってください。

Table 3-1.

MD board	MD Mechanism KML-252 (001M)	MD circuit		
		QU20	DQ10	QU01, QQ01, QQ10, QQ50
1.Temperature compensation offset adjustment	X	O	O	O
2.Laser power	O	O	X	O
3.Traverse adjustment	O	O	X	O
4.Focus bias adjustment	O	O	X	O
5.Error rate check	O	O	X	O

2. Set the SERVICE MODE when performing adjustments. After completing the adjustments, exit the SERVICE MODE.
3. Perform the adjustments in the order shown.

4. When observing several signals on the oscilloscope, etc., make sure that VC and ground do not connect inside the oscilloscope.
(VC and ground will become short-circuited)
5. Test disc

Table 3-2

High reflection disc	A-BEX, TMD-381, for audio performance measurement
Low reflection disc	Blank disc on market for Rec/Play
Eccentricity disc	A-BEX, TMD-311R, Confirm Rec/Play operation
Surface distortion disc	A-BEX, TMD-331R, Confirm Rec/Play operation

3-4. CREATING CONTINUOUSLY RECORDED DISC

This disc is used in focus bias adjustment and error rate check. The following describes how to create a continuous recording disc.

1. Set the SERVICE MODE.
2. Insert a low reflection disc (blank disc) commercially available.
3. Use the **EDIT(<, >)** buttons and display "CREC MODE".
4. Press the **ENTER** button and display "CREC MID".
"CREC (0300)" is displayed and recording starts.
5. Complete recording within 5 minutes.
6. Press the **STOP** button and stop recording.
7. Slide the **EJECT** switch and remove the low reflection disc.

The above has been how to create a continuous recording data for the focus bias adjustment and error rate check.

Note : Be careful not to apply vibration during continuous recording.

3-5. TEMPERATURE COMPENSATION OFFSET ADJUSTMENT

Save the temperature data at that time in the non-volatile memory as 25 °C reference data.

Notes :

1. Usually, do not perform this adjustment.

表 3-1

	MD Mechanism KML-252 (001M)	MD 回路		
		QU20	DQ10	QU01,QQ01,QQ10,QQ50
1.温度補償オフセット調整	×	O	O	O
2.レーザーパワー調整および確認	O	O	×	O
3.トラバース調整	O	O	×	O
4.フォーカスバイアス調整	O	O	×	O
5. エラーレート確認	O	O	×	O

2. 調整はサービスモードにして行ってください。
調整終了後はサービスモードを解除してください。
3. 調整は掲載順に行ってください。

4. オシロスコープ等で複数の信号を見る場合、VC と GND がオシロスコープ内部で接続されないようにしてください。
(VCと GNDがショートしてしまいます。)
5. テストディスク

表 3-2

高反射ディスク	A-BEX TMD-381 Audio パフォーマンス測定用
低反射ディスク	市販録再用
偏心ディスク	A-BEX TMD-311R 録再確認
面振れディスク	A-BEX TMD-331R 録再確認

3-4. 連続録音ディスクの作り方

このディスクはフォーカスバイアス調整および確認、エラーレート確認において使用するディスクです。以下その連続録音ディスクの作り方を記します。レーザーは通常、間欠発光ですが、連続録音中は連続発光しています。

1. 市販の低反射ディスク(ブランクディスク)を挿入する。
2. **EDIT(<, >)**ボタンを押して表示を" CREC MODE" にする。
3. **ENTER** ボタンを押すと" CREC MID" になる。
"CREC 0300" と表示し録音を始める(数字が変化する)。
4. 5 分間以内に録音を終えてください。
5. **STOP**ボタンを押して録音を止める。
6. **EJECT**スイッチをスライドして低反射ディスクを取り出す。

以上でフォーカスバイアス調整および確認、エラーレート確認用の連続録音ディスクを作ることができます。

注意 : 連続録音中は振動などが加わらないように注意してください。

3-5. 温度補償オフセット調整

その時点の温度データを 25 ℃基準データとして不揮発性メモリにセーブします。

注意 :

1. 通常、この調整は行わないでください。
2. この調整を行う際の周囲温度は 22 ℃～28 ℃の範囲で行うようにしてください。また、セットの内部温度が周囲温度と同じ 22 ℃～28 ℃の状態である電源投入直後に行ってください。
3. DQ01 交換後は、部品の温度が十分周囲温度になってからこの調整を行ってください。

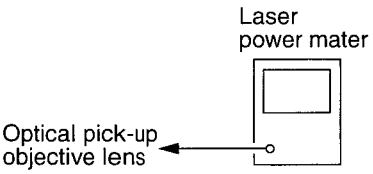
2. Perform this adjustment in an ambient temperature of 22 °C to 28 °C. Perform it immediately after the power is turned on when the internal temperature of the unit is the same as the ambient temperature of 22 °C to 28 °C.
3. When DQ10 has been replaced, perform this adjustment after the temperature of this part has become the ambient temperature.

Adjusting Method:

1. Selected by Use the **EDIT(<, >)** buttons and display "TEMP ADJ".
2. Press the **ENTER** button. The display shows "TEMP +25C". By using the **EDIT(<, >)** buttons, set the current temperature.
3. To save the data, press the **ENTER** button.
4. When the **ENTER** button is pressed, "DATA SAVE" will be displayed for 1 second, followed by "TEMP ADJ".

3-6. LASER POWER ADJUSTMENT

Connection:



Adjusting Method:

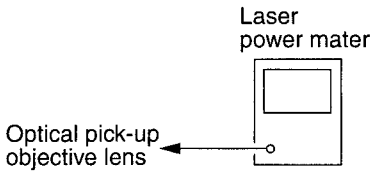
1. Set the sensor disc of power meter into the MD mechanism.
2. Selected by Use the **EDIT(<, >)** buttons and display "LDPWR ADJ". (Laser power : for adjustment)
3. Press the **ENTER** button and display "LD 0.9 $□□ ". (Then the pickup will move to inside automatically.)
4. Selected by Use the **EDIT(<, >)** buttons so that the reading of the laser power meter becomes 0.88 to 0.92 mW.
   Set the range control on the laser power meter to 10 mW, then press the **ENTER** button to save the adjustment result in the non-volatile memory. ("DATA SAVE" will be displayed for a moment.)
5. Then "LD 7.0 $□□ " will be displayed.
6. Press the PLAY button, selected by Use the **EDIT(<, >)** buttons so that the reading of the laser power meter becomes 6.95 to 7.05 mW, press the **ENTER** button and save the adjustment result in the non-volatile memory. ("DATA SAVE" will be displayed for a moment.)
   Note : The emission stops after 10 seconds automatically. When the adjustment resume, press the PLAY button.
7. Selected by Use the **EDIT(<, >)** buttons and display "LDPWR CHK".
8. Press the **ENTER** button and display "LD 0.9 $□□ ".
   Check that the reading of the laser power meter becomes 0.80 to 0.96 mW.
9. Press the **ENTER** button and display "LD 7.0 $□□ ".
   Check that the reading of the laser power meter satisfy 6.95 to 7.05 mW.

調整方法 :

1. **EDIT(<, >)**ボタンを押して表示を"TEMP ADJ"にする。
2. **ENTER** ボタンを押すと"TEMP +25"と表示される。その時 **EDIT(<, >)**ボタンを使って現在の室温に合わせる。
3. 温度表示を室温に合わせた後、**ENTER** ボタンを押すと入力したデータを EEPROMに書き込み、"DATA SAVE" を 1 秒間表示してから項目選択に戻ります。

3-6. レーザーパワー調整および確認

接続 :



調整方法 :

1. レーザーパワーメータのセンサーMD ディスクを MD メカにセットする。
2. **EDIT(<, >)**ボタンを押して表示を"LDPWR ADJ" にする。(レーザーパワー : 調整用)
3. **ENTER** ボタンを押して表示を"LD 0.9 $□□"にする。(この時、ピックアップは自動的に最内周に移動する。)
4. レーザーパワーメータの読みが 0.9 mW±0.02 mW になるように **EDIT(<, >)**ボタンを押して調整する。次にレーザーパワーメータのレンジつまみを 10 mW にセットしてから **ENTER** ボタンを押して不揮発性メモリに調整結果をセーブする。(この時、一瞬"DATA SAVE"と表示される。)
5. 表示が"LD 7.0$□□"になる。
6. **PLAY** ボタンを押して(レーザーが発光する)、レーザーパワーメータの読みが 7.0 mW±0.05 mW になるように **EDIT(<, >)**ボタンを押して調整し、**ENTER** ボタンを押して不揮発性メモリに調整結果をセーブする。(この時、一瞬"DATA SAVE"と表示される。)
   注意 : 発光は、10 秒で自動的に停止しますが、その場合 **PLAY**ボタンを押して、調整を行ってください。
7. **EDIT(<, >)**ボタンを押して表示を"LDPWR CHK"にする。
8. **ENTER** ボタンを押して表示を"LD 0.9 $□□"にする。この時のレーザーパワーメータの読みが 0.9 mW±0.02 mW であることを確認する。
9. **ENTER** ボタンを押して表示を"LD 7.0 $□□"にする。この時のレーザーパワーメータの読みが 7.0 mW±0.05 mW であること確認する。
10. **STOP** ボタンを押してレーザー発光を止める。表示は "LDPWR CHK"に戻る。

STOPボタンはいつでも受け付け、レーザ発光を止めます。

3-7. トラバース(E-Fバランス)調整

トラバース調整には、2 種類のディスクで 4 つのデータをセーブします。

注意 : 記録済ディスクをこの調整に使用すると書き込み時データが消去されます。

10. Press the **STOP** button and display "LDPWR CHK". and stop the laser emission.

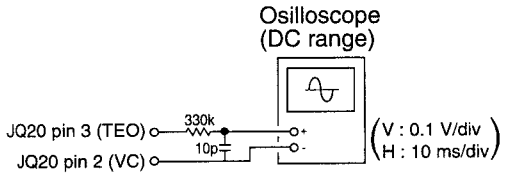
The **STOP** button is effective at all times to stop the laser emission.

3-7. TRAVERSE (E-F BALANCE) ADJUSTMENT

Note 1 : Data will be erased during MO reading if a recorded disc is used in this adjustment.

Note 2 : If the traverse waveform is not clear. connect the oscilloscope as shown in the following figure so that it can be seen more clearly.

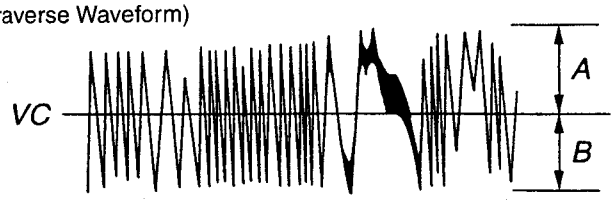
Connection:



Adjusting Method:

1. Connect an oscilloscope to JQ20 pin 3 (TEO) and JQ20 pin 2 (VC) of the MD board (PQ01).
2. Load a low reflection disc (any available on the market). (Refer to Note 1.)
3. Press the ▶▶ button or ◀◀ button and move the optical pick-up outside the pit.
4. Use the **EDIT(<, >)** buttons and display "EFBAL ADJ".
5. Press the **ENTER** button and display "EFBAL MO". (Laser power READ power/Focus servo ON/tracking servo OFF/spindle (S) servo ON)
6. Press the **ENTER** button.
7. Use the **EDIT(<, >)** buttons so that the waveforms of the oscilloscope becomes the specified value. (When the the **EDIT(<, >)** buttons is Used, the "□□" of "MOr EFB=□□" changes and the waveform changes.) In this adjustment, waveform varies at intervals of approx. 2%. Adjust the waveform so that the specified value is satisfied as much as possible. (MO read power traverse adjustment)

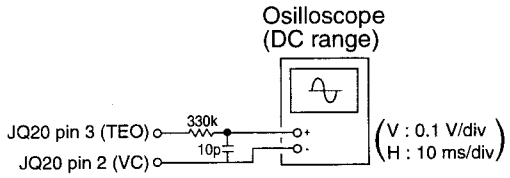
(Traverse Waveform)



specification : A = B

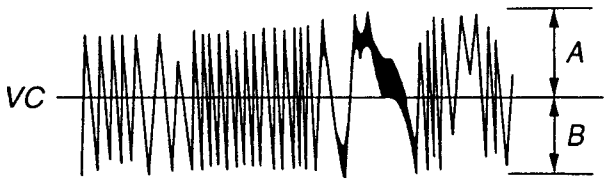
8. Press the **ENTER** button, and save the result of adjustment to the non-volatile memory. ("DATA SAVE" will be displayed for a moment. Then "MOw EFB= □□" will be displayed.) The optical pick-up moves to the pit area automatically and servo is imposed.
9. Use the **EDIT(<, >)** buttons so that the waveforms of the oscilloscope becomes the specified value. (When the the **EDIT(<, >)** buttons is Used, the "□□" of "MOw EFB= □□" changes and the waveform changes.) In this adjustment, waveform varies at intervals of approx. 2%. Adjust the waveform so that the specified value is satisfied as much as possible.

接続 :



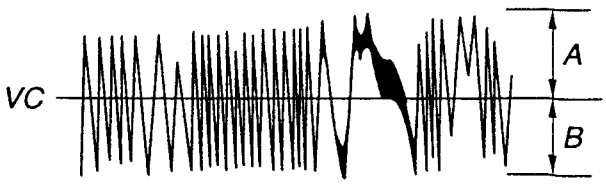
調整方法 :

1. オシロスコープを MD 基板(PQ01)の JQ20 3 ピン(TEO)と JQ20 2ピン(VC)に接続する。
2. 市販の低反射ディスク(ブランクディスク)を挿入する。(注意.参照)
3. ▶▶ ボタン、◀◀ ボタンを押して光ピックアップをピット部より外周に移動する。
4. **EDIT(<, >)**ボタンを押して表示を"EFBAL ADJ"にする。
5. **ENTER** ボタンを押して表示を"EFBAL MO"にする。 (これはレーザーパワー : READパワー,フォーカスサーボ : ON,トラッキングサーボ : OFF,スピンドル(S)サーボ : ONの状態)
6. 再度、**ENTER** ボタンを押します。
7. オシロスコープの波形が規格値になるように **EDIT(<, >)**ボタンを押して調整する。 **(EDIT(<, >)**ボタンを押すと、"MOr EFB=□□"の"□□"数字が変化し、波形も変化します。) この調整は約 2%刻みで変化し、最も規格値に近づくように調整する。 (MOリードパワートラバース調整)



(トラバース波形 規格 : A = B)

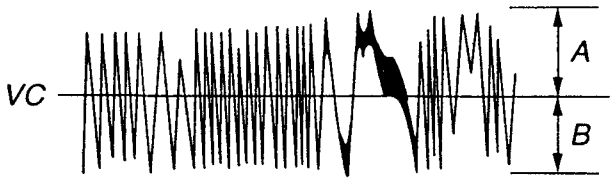
8. **ENTER** ボタンを押して不揮発性メモリに調整結果をセーブする。(この時、一瞬"DATA SAVE"と表示される。) その後に"MOw EFB=□□"と表示される。自動的にピット部の内周まで光ピックアップが移動してサーボがかかる。
9. この時のオシロスコープの波形が規格値に近づくように **EDIT(<, >)**ボタンを押して調整する。 **(EDIT(<, >)**ボタンを押すと、"MOw EFB=□□"の"□□"数字が変化し、波形も変化します。) この調整は約 2%刻みで変化し、最も規格値に近づくように調整する。 (MOライトパワートラバース調整)



(トラバース波形 規格 : A = B)

10. **ENTER** ボタンを押して不揮発性メモリに調整結果をセーブする。(この時、一瞬"DATA SAVE"と表示される。) その後"MOp EFB=□□"と表示される。

(Traverse Waveform)

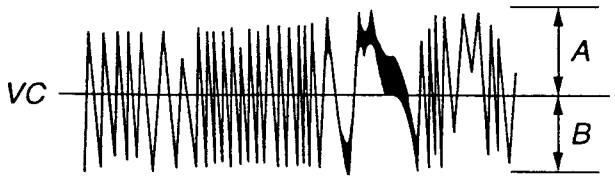


specification : A = B

10. Press the **ENTER** button, and save the result of adjustment to the non-volatile memory. ("DATA SAVE" will be displayed for a moment. Then "MOp EFB=□□" will be displayed.)
11. Use the **EDIT(<, >)** buttons so that the waveforms of the oscilloscope becomes the specified value. (When the the **EDIT(<, >)** buttons is Used, the "□□" of "MOp EFB=□□" changes and the waveform changes.) In this adjustment, waveform varies at intervals of approx. 2%. Adjust the waveform so that the specified value is satisfied as much as possible.

(MO write power traverse adjustment)

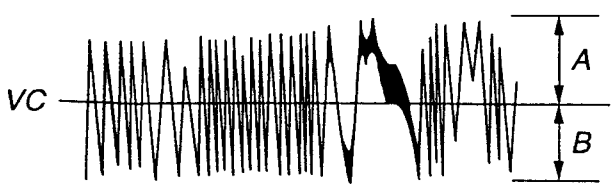
(Traverse Waveform)



specification : A = B

12. Press the **ENTER** button, and save the result of adjustment to the non volatile memory. ("DATA SAVE" will be displayed for a moment.) Then "MOp EFB= □□" will be displayed.
13. Slide the **EJECT** switch and remove the low reflection disc.
14. Load the test disc. (High reflection disc TMD-381)
15. Press the **ENTER** button and display "CD EFB= □□".
16. Press the **ENTER** button. Servo is imposed automatically.
17. Use the **EDIT(<, >)** buttons so that the waveforms of the oscilloscope becomes the specified value. (When the the **EDIT(<, >)** buttons is Used, the "□□" of "CD EFB= □□" changes and the waveform changes.) In this adjustment, waveform varies at intervals of approx. 2%. Adjust the waveform so that the specified value is satisfied as much as possible.

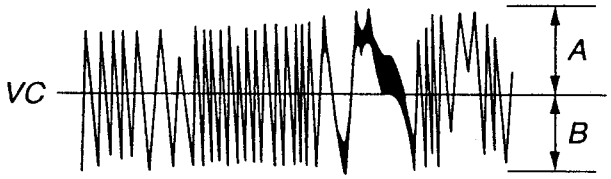
(Traverse Waveform)



specification : A = B

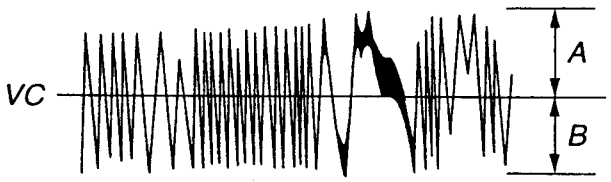
11. オシロスコープの波形が規格値になるように **EDIT(<, >)**ボタンを押して調整する。
(EDIT(<, >)ボタンを押すと、"MOp EFB=□□"の"□□"数字が変化し、波形も変化します。)
この調整は約 2%刻みで変化し、最も規格値に近づくように調整する。

(ピットトラバース調整)



(トラバース波形　規格：A = B)

12. **ENTER** ボタンを押して不揮発性メモリに調整結果をセーブする。(この時、一瞬"DATA SAVE"と表示される。)
13. **EJECT**スイッチをスライドして低反射ディスクを取り出す。
14. テストディスク 高反射ディスク A-BEX TMD-381を挿入する。
15. **ENTER** ボタンを押して表示を"CD EFB=□□"にする。
16. 再度、**ENTER** ボタンを押します。自動的にサーボがかかります。
17. オシロスコープの波形が規格値に近づくように **EDIT(<, >)** ボタンを押して調整する。
(EDIT(<, >)ボタンを押すと、"CD EFB=□□"の"□□"数字が変化し、波形も変化します。)
この調整は約 2%刻みで変化し、最も規格値に近づくように調整する。

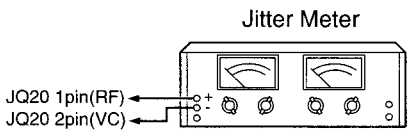


(トラバース波形　規格：A = B)

18. **ENTER** ボタンを押して不揮発性メモリに調整結果をセーブする。(この時、一瞬"DATA SAVE"と表示される。)
19. その後に"EFBAL ADJ"と表示される。
20. **EJECT** スイッチをスライドしてテストディスク 高反射ディスク A-BEX TMD-381を取り出す。

3-8.フォーカスバイアス調整

接続 :



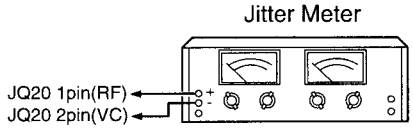
調整方法 :

1. 連続録音済ディスク("3-4. 連続録音ディスクの作り方"を参照してください。)を挿入する。
2. **EDIT(<, >)**ボタンを押して表示を"FBIAS ADJ"にする。
3. **ENTER** ボタンを押して表示を"a = □□"にする。

18. Press the **ENTER** button, and save the result of adjustment to the non-volatile memory. ("DATA SAVE" will be displayed for a moment. Then "EFBAL ADJ" will be displayed.)
19. Press the **EJECT** switch and remove the test disc. (High reflection disc TMD-381)

3-8. FOCUS BIAS ADJUSTMENT

Connection:



Adjusting Method:

1. Load a continuously recorded disc (Refer to "3-4. Creating MO Continuously Recorded. Disc".).
2. Use the **EDIT(<, >)** buttons and display "FBIAS ADJ".
3. Press the **ENTER** button and display "a = □□".
4. Press the ">" of the **EDIT(<, >)** button and find the focus bias value at which the reading of the jitter meter becomes 27 ns to 30 ns. (Refer to note 2.) If the reading of the jitter meter is over 30 ns, press the "<" of the **EDIT(<, >)** button. It will be down.
5. Press the **ENTER** button and display "b = □□".
6. Press the "<" of the **EDIT(<, >)** button and find the focus bias value at which the reading of the jitter meter becomes 27 ns to 30 ns. (Refer to note 2.) If the reading of the jitter meter is over 30 ns, press the ">" of the **EDIT(<, >)** button. It will be down.

Note : If the sarvo is out and It stops to adjust, press the **STOP** button. The display will show "ADJ CANCEL", and the display return to "FBIAS ADJ".

7. Press the **ENTER** button, and save the result of adjustment to the non-volatile memory. ("DATA SAVE" will be displayed for a moment.) Then "c = □□" will be displayed.
8. Press the **DISPLAY** button and display "C1□□□□AD□□" and check that the C1 error rate is below 50 and ADER is 00. Then press the **STOP** button. The first four digits indicate the C1 error rate, the two digits after indicate ADER.
9. If the reading of the jitter meter is over 28 ns, press the **STOP** button ("FBIAS ADJ" will be displayed.) and adjust it again.
10. Press the **STOP** button and slide the **EJECT** switch to remove the continuously recorded disc.

Note 1 : The relation between the C1 error and jiter meter is as shown in the following figure. Find points **a** and **b** in the following figure using the above adjustment. The focal point position ***c*** is automatically calculated from points ***a*** and ***b***.

Note 2 : As the jiter meter changes, perform the adjustment using the average vale.

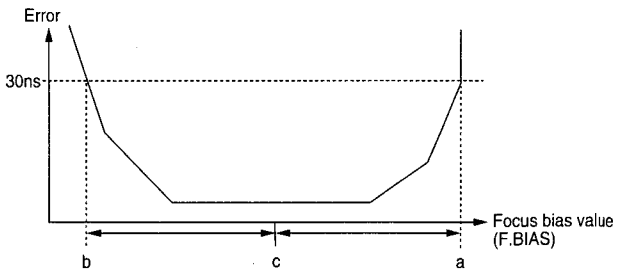
4. **EDIT(>)**ボタン(必ず、>)を押してジッターメータ値が27 nS～30 nSになるフォーカスバイアス量を見つける。(注意 2. 参照)30 nSを超えたときのみ**(<)**ボタンで少し下げる。(a点側のジッターの最大値を設定)
5. **ENTER** ボタンを押して表示を"b = □□"にする。
6. **EDIT(<)**ボタン(必ず、<)を押してジッターメータ値が27 nS～30 nSになるフォーカスバイアス量を見つける。(注意 2. 参照)30 nS を超えたときのみ(>)ボタンで少し下げる。(b 点側のジッターの最大値を設定)

注意 ：サーボが外れたとき及び調整を中止するときは、**STOP** ボタンを押すと"ADJ CANCEL"を表示して(調整データはセーブされない。)、その後表示は"FBIAS ADJ"に戻る。(項目選択)
STOPボタンはいつでも受け付け、調整を止めます。

7. **ENTER** ボタンを押して不揮発性メモリに調整結果をセーブする。(この時、一瞬"DATA SAVE"と表示される。)
その後"c = □□"と表示される。(c点は自動調整)
8. この時、**DISPLAY**ボタンを押して、"C1□□□□AD□□"と表示する。C1エラーレート表示が 50以下で ADERが 00であることを確認して**STOP**ボタンを押す。最初の 4 桁の数字がC1エラーレート、後の2桁の数字が ADERを示す。
9. ジッターメータ値が 28 nS以上の時は **STOP**ボタンを押して再度、調整をする。"FBIAS ADJ"に戻る。(項目選択)
10. **STOP** ボタンを押し、次に **EJECT** スイッチをスライドして連続録音済ディスクを取り出す。

注意 ：

1. C1エラーとジッターメータ値の関係を示すと下図のようになります。上記調整で下図の ***a***, ***b*** 点を見つけます。合焦点位置 ***c*** 点は ***a***, ***b*** 点から自動的に計算し求めます。
2. ジッターメータ値は変動しますので、平均値を読み調整を行うようにしてください。

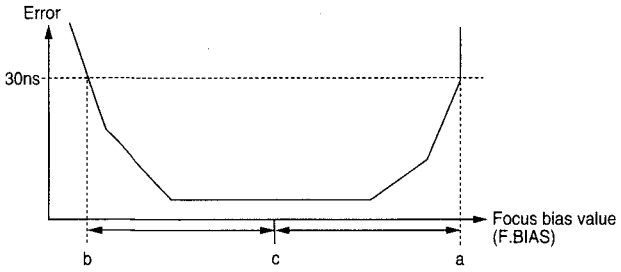


3-9. エラーレート確認

3-9-1. 高反射ディスクエラーレート確認

確認方法 ：

1. 高反射ディスク A-BEX TMD-381を挿入する。
2. **EDIT(<, >)**ボタンを押して表示を"CPLAY MODE"にする。
3. **ENTER** ボタンを押すと表示が 1 秒間"CPLAY MID"となった後、表示が"C1□□□□AD□□"に変わる。
4. C1エラーレートが20以下であることを確認する。
5. **STOP** ボタンを押して再生を止め、**EJECT** スイッチをスライドして高反射ディスクを取り出す。



3-9. ERROR RATE CHECK

3-9-1. High Reflection Disc Error Rate Check

Checking Method:

1. Load a test disc.(High reflection disc TMD-381)
2. Use the **EDIT(<, >)** buttons and display "CPLAY MODE" .
3. Press the **ENTER** button and the display shows "CPLAY MID" for 1 second. Then "C1□□□□AD□□ " is displayed.
4. Check that the C1 error is below 20.
5. Press the **STOP** button, stop playback, slide the **EJECT** switch, and remove the test disc. (High reflection disc TMD-381)

3-9-2. Low Reflection Disc Error Rate Check

Checking Method:

1. Load a continuously recorded disc (Refer to "3-4. Creating MO Continuously Recorded Disc".).
2. Use the **EDIT(<, >)** buttons and display "CPLAY MODE".
3. Press the **ENTER** button and the display shows "CPLAY MID" for 1 second. Then "C1□□□□AD□□" is displayed.
4. If the C1 error is below 50, check that ADER is 00.
5. Press the **STOP** button, stop playback, slide the **EJECT** switch and remove the continuously recorded disc.

3-10. FOCUS BIAS CHECK

Change the focus bias and check the focus tolerance amount.

Checking Method:

1. Load a continuously recorded disc (Refer to " 3-4. Creating Continuously Recorded Disc".).
2. Use the **EDIT(<, >)** buttons and display "FBIAS CHECK".
3. Press the **ENTER** button and display "c = □□".
4. Press the **DISPLAY** button and display "C1□□□□AD□□ " . The first four digits indicate the C1 error rate, the two digits after indicate ADER. Check that the C1 error is below 50 and ADER is 00.
5. Press the **STOP** button, next slide the **EJECT** switch, and remove the continuously recorded disc.

3-9-2. 低反射ディスクエラーレート確認

確認方法 :

1. 連続録音済ディスク("3-4. 連続録音ディスクの作り方"を参照してください。) を挿入する.
2. **EDIT(<, >)**ボタンを押して表示を"CPLAY MODE"にする.
3. **ENTER** ボタンを押すと表示が 1 秒間"CPLAY MID"となった後、表示が"C1□□□□AD□□"に変わる。
4. C1エラーレートが50以下で ADERが 00であることを確認する.
5. **STOP** ボタンを押して再生を止め、**EJECT** スイッチをスライドして低反射ディスクを取り出す.

3-10. フォーカスバイアス確認

フォーカスバイアス量を変化させフォーカストレランス量の確認をします.

確認方法 :

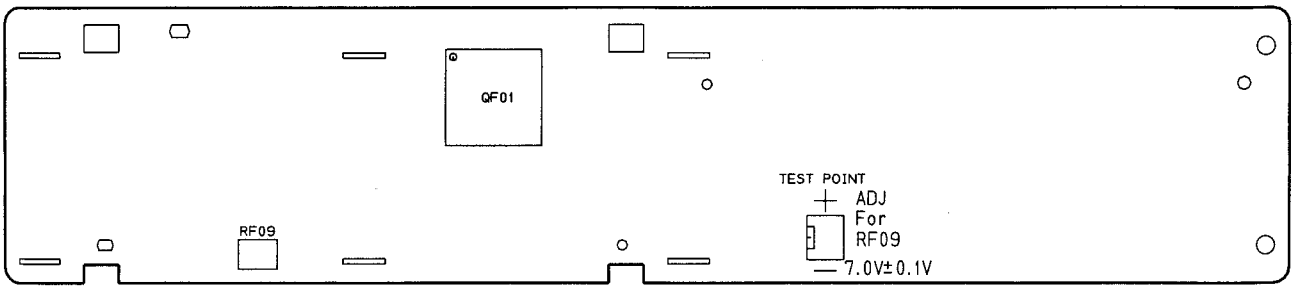
1. 連続録音済ディスク("3-4. 連続録音ディスクの作り方"を参照してください。) を挿入する.
2. **EDIT(<, >)**ボタンを押して表示を"FBIAS CHK"にする.
3. **ENTER** ボタンを押して表示を"c = □□"にする。次に**DISPLAY** ボタンを押すと"C1□□□□AD□□"を表示する。最初の 4 桁の数字が C1エラーレート、後の 2 桁の数字が ADERを示す。この時の C1 エラーレートが 50 以下で ADERが 00 であることを確認する。
4. **STOP** ボタンを押して再生を止め、**EJECT** ボタンをスライドして連続録音済ディスクを取り出す。

4. LCD CONTRAST ADJUSTMENT

1. Connect the TEST POINT (See below) with the tester.
2. Turn the variable resistor RF09 so that the reading of the testor becomes 7.0 V ± 0.1 V and conform the contrast of the LCD becames maximum.

4.LCD 輝度電圧調整

1. LCDモジュールとメイン基板をペアーとして以下の調整をおこなってください。
2. TEST POINT にテスターを接続し、輝度電圧測りながらボリューム RF09の抵抗値を調整する。
3. LDCを正面から見て、コントラストが最大になることを確認しながら輝度電圧を 7.0V±0.1Vに調整する。



5. HOW TO DISASSEMBLE

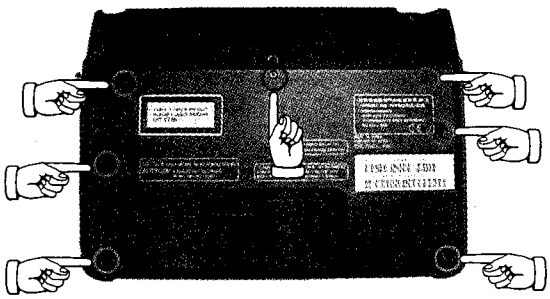
1. Taking the MD module apart

1) Remove 7 screws as shown in Fig.1.

5. 分解方法

1. MDモジュールの外し方

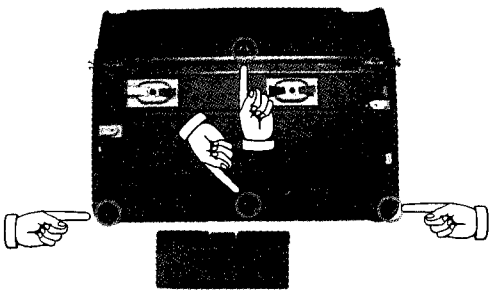
1) 下図 1 に示すビス 7 本を外します。



<Fig.1 Position of 7 screws>

2) Remove the battery cover.
3) Remove 4 screws as shown in Fig.2.

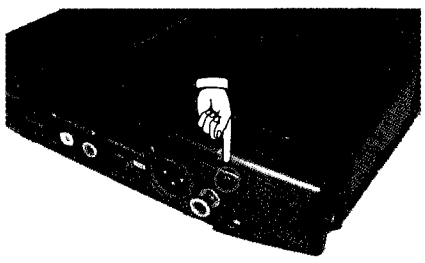
2) バッテリーカバーを外します。
3) 下図 2 に示すビス 4 本を外します。



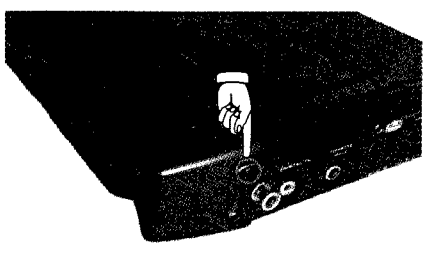
<Fig.2 Position of 4 screws>

4) Remove 2 screws from both sides as shown in Fig.3 and Fig.4.

4) 下図 3~4 に示す両サイドのビス計 2 本を外します。



<Fig.3 Position of screw>



<Fig.4 Position of screw>

5) Remove the front panel, holding it and pushing down with thumb as shown in Fig.5 and Fig.6.

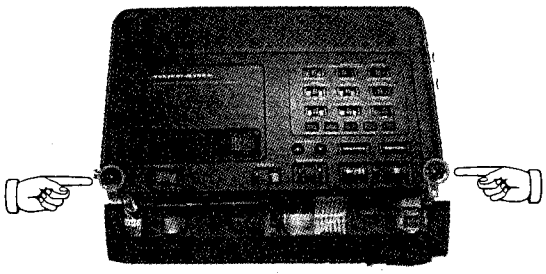
5) フロントパネルを下図 5~6 の位置を指で押さえながら外します。

<Fig.5 Holding position>

<Fig.6 Removing the front panel>

6) Remove 4 screws as shown in Fig.7.

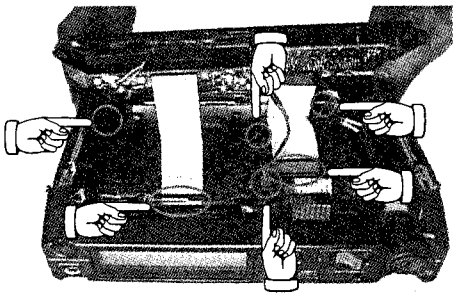
6) 下図 7 に示すビス 2 本を外します。



<Fig.7 Position of 4 screws>

7) Remove 5 connectors and screw as shown in Fig.8. And remove the top case.

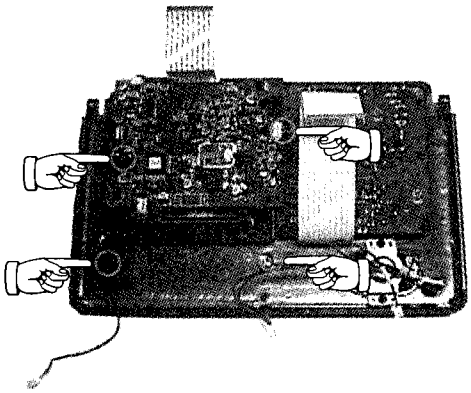
7) トップケースを持ち上げます。下図 8 に示す５つのコネクタとビスを外し、トップケースを外します。



<Fig.8 Position of connectors>

8) Remove 4 screws as shown in Fig.9.

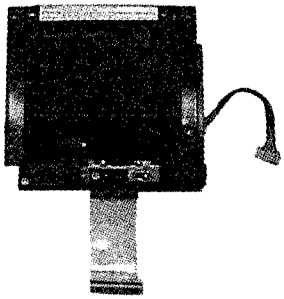
8) 下図 9 に示すMDメカユニット部分のビス4本を外します。



<Fig.9 Position of 4 screws>

9) Remove the MD unit part.

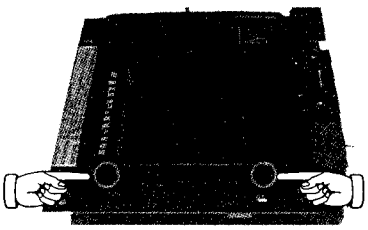
9) MDメカユニット部分を取り外します(図 10)。



<Fig.10 The part of the MD unit>

10) Remove 2 screws as shown in Fig.11.

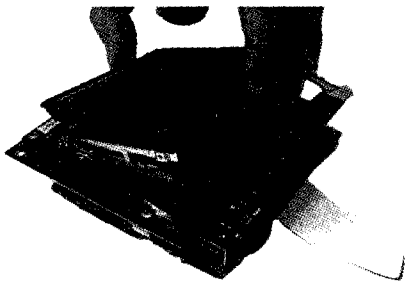
10) 下図 11のビス 2 本外します。



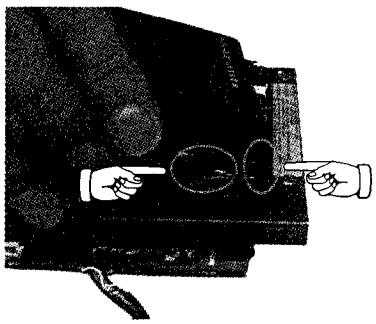
<Fig.11 Position of 2 screws>

11) Lift up the MD lid. Remove the hinge.

11) MDの蓋を持ち上げます(図 12)。HINGEを外します(図 13)。



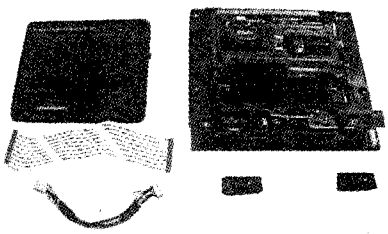
<Fig.12 lifting up the MD lid>



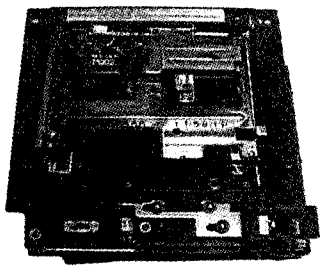
<Fig.13 Removing the hinge>

12) Remove the MD lid. Remove the lever of EJECT and POWER and the cables.

12) MD の蓋を取り外します。EJECT、POWER スイッチレバーとケーブル2本を外します(図 14)。



<Fig.14 Removed the MD module>



<Fig.15 The MD module (Part Number : ZZ409S3010)>

Notes:
When the MD module is replaced, please confirm the version of μ-Processors, QU01 and QL04 (refer to "7. BUGS AND PROBLEMS").

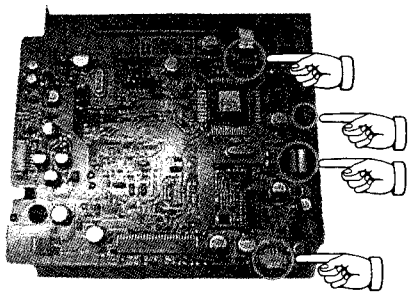
注意：
MDモジュールを交換する際は、2つのマイコン(QU01、QL04)のバージョンを確認してください。詳しくは、7.不具合対応 を参照してください。

2. Taking The MD PCB apart

13) Remove 3 cables and screw as shown in Fig.16.

2. MD基板の外し方

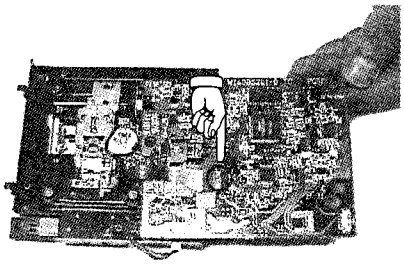
13) 下図16に示すコネクタ3つ、ビス1本を外します。



<Fig.16 Position of 3 cables and screws>

14) Turn over the MD PCB.

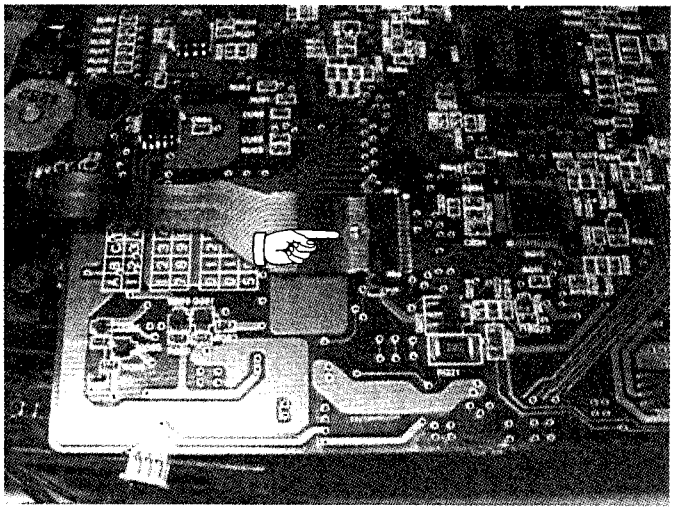
14) 基板を裏返します(図17)。



<Fig.17 Turning over the MD PCB>

15) Solder in the position as shown in Fig.18. Then remove the connector.

15) 下図 18 に示す部分に半田を付けます。それから、コネクタを外します。



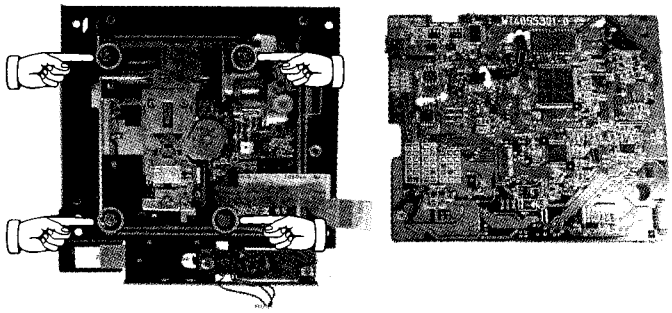
<Fig.18 Soldering position>

3. Taking the MD mechanism a part

16) Remove 4 screws as shown in Fig.19.

3. MD メカの外し方

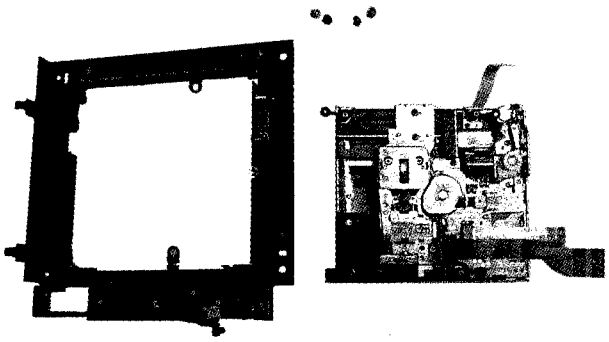
16) 下図19のビス4本を外します。



<Fig.19 Position of 4 screws>

17) Remove the MD mechanism.

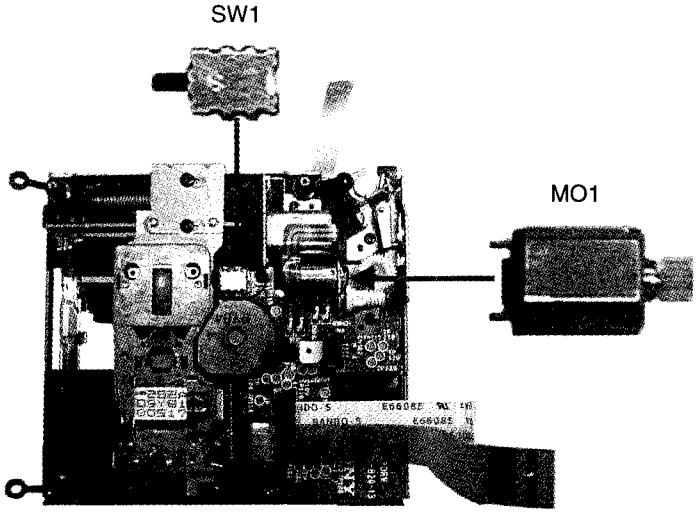
17) MDメカを外します。



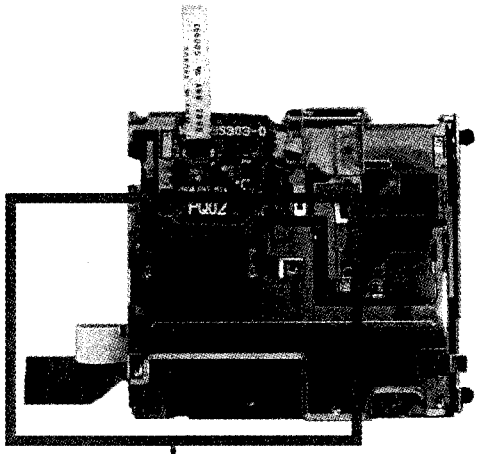
<Fig.20 The MD mechanism>

4.The spare parts of MD mechanism (KML-252)

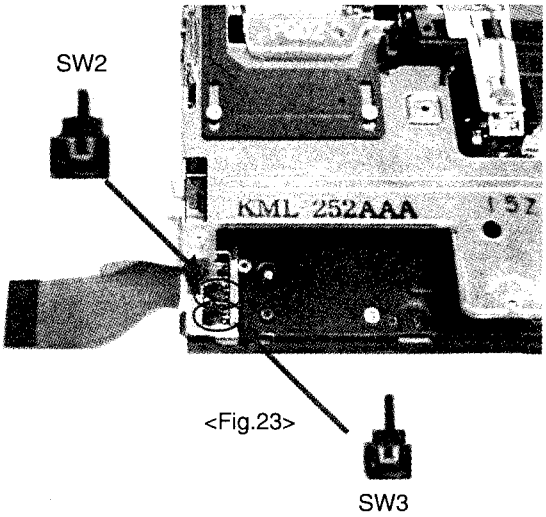
4. MD メカ(KML-252)のスペアパーツ



<Fig.21>



<Fig.22>



<Fig.23>

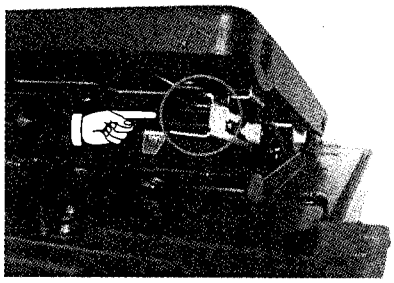
No.	PART No.	DESCRIPTION
MO1	*MM001030R	MOTOR FOR EJECT LOCK
SW1	*SP000970R	SWITCH FOR PICK-UP
SW2	*SP000950R	SWITCH (SHORT)
SW3	*SP000960R	SWITCH (LONG)

5. Caution on reassemble

18) When reattaching the lid, position the hook as shown in Fig.19.

5. 組立時の注意

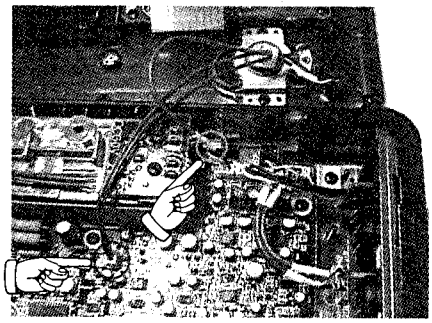
18) MD の蓋を取り付ける時、金具を図 19 に示すように合せます。



<Fig.24 Position of the hook>

19) Reconnect cables as shown in Fig.20.

19) 図 20 に示す様に配線します。

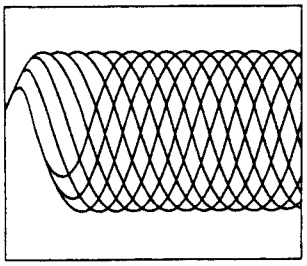


<Fig.25 Reconnecting cables>

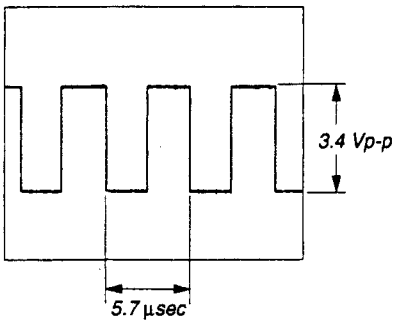
6. WAVEFORMS

6. 波形図

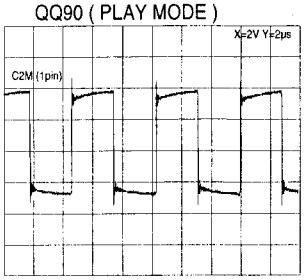
QQ10 ①, ② (I, J) (Play Mode)



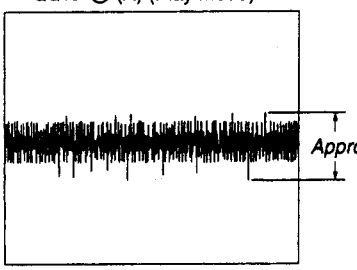
QQ50 ⑳ (FS4)



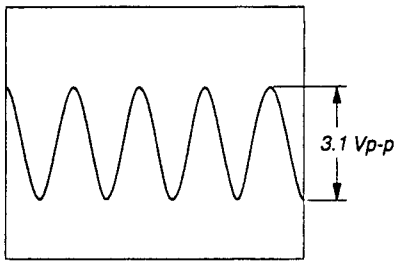
QQ90 (PLAY MODE)



QQ10 ④ (A) (Play Mode)

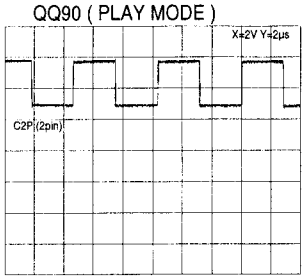


QQ50 ⑯ (OSCI)



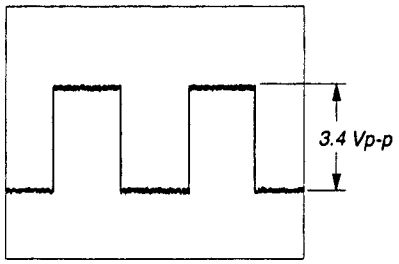
22.5782 MHz

QQ90 (PLAY MODE)



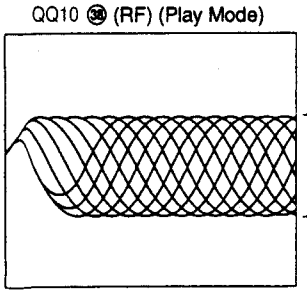
QQ10 ⑧, ⑨ (E, F) (Play Mode)

QQ50 ㉕ (LRCK)

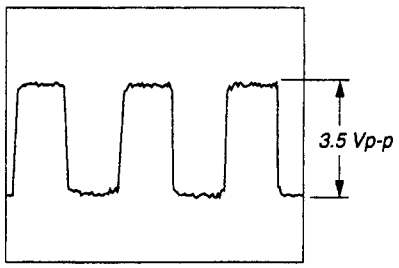


44.1 kHz

QQ10 ㉚ (RF) (Play Mode)

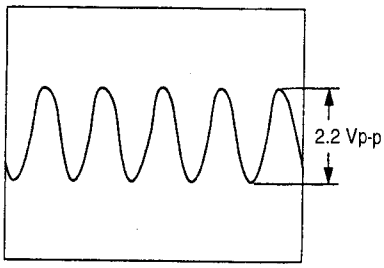


QQ50 ㉖ (XBCK)



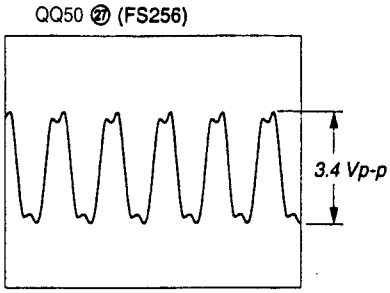
2.8223 MHz

QU01 ㉗ (X1)



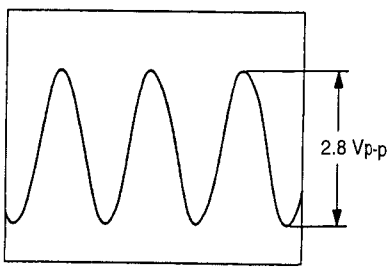
12 MHz

QQ50 ㉗ (FS256)



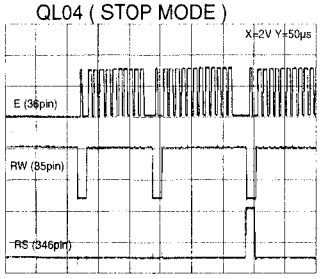
11.2891 MHz

QU01 ㉔ (X2)

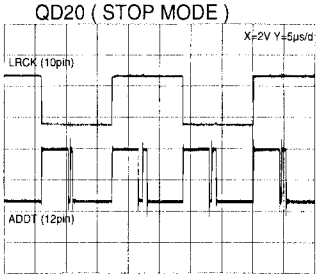


32.768 kHz

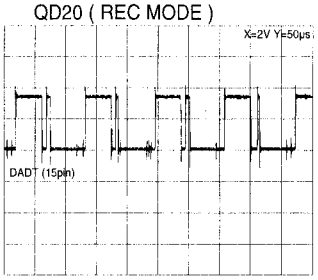
QL04 (STOP MODE)



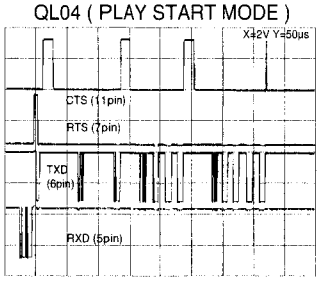
QD20 (STOP MODE)



QD20 (REC MODE)



QL04 (PLAY START MODE)



7. BUGS AND PROBLEMS

When the symptoms appear as shown in the Table 7-1, solve by referring to Table 7-1, Table 7-2 and Table 7-3. Other symptoms caused by µ-processors (QU01, QL04) will be published via "Service Bulletin".

7. 不具合対応

下記の Table 7-1のような不具合があった場合には、Table 7-1、Table 7-2、Table 7-3を参考に対応してください。Table 7-3 に記載されていない Service code 及び LOTの不具合については、今後発行されるサービスブリテンを参照して下さい。

Table 7-1 Symptom and Solution

Symptom	Symptom description	Solution description
Phantom *1	Phantom Power line (+48V) will be shut down when press the PLAY button while RECORDING.	Remove the transistor QP33 (PCB PK01).
	録音中にPLAY ボタンを押すとPhantom 電源（＋４８Ｖ）が切れる。	QP33(PCB PK0 1)削除する。
REC DATE *2	Recorded DATE/TIME data by PMD650 has no compatibility with other MD recorders.	Replace microprocessors QU01 (PCB PQ01) and QL04 (PCB PK01) to latest version ones.
	PMD650 で録音後、録音日付表示のある他社製MD プレーヤーで再生すると記録時間が正確に表示されない。	２つのマイコンQU0 1 (PCB PQ0 1)とQL04(PCB PK0 1)を最新のバージョンに交換する。
MONO/ST sel. *3	MONO/ST (at the STOP mode) switch will not work correctly while LP recording.	Replace microprocessor QL04 (PCB PK01) to latest version one.
	ＳＴＯＰ 時にSOURCE 切り替えSW を切り替えた後、録音をすると正常に録音できない。	マイコンQL04(PCB PK0 1)を最新のバージョンに交換する。
80 min MD *4	Time indication can be shown only 160min while LP mode recording with 80min MD disc.	Replace microprocessors QU01 (PCB PQ01) and QL04 (PCB PK01) to latest version ones.
	８０分Ｄｉｓｃ のＬＰ 録音時に160 分を超えた場合、表示が０から始まる。	２つのマイコンQU0 1 (PCB PQ0 1)とQL04(PCB PK0 1)を最新のバージョンに交換する。
P-ON No read *5	Disc detect will not work.	Short soldering pins (pin33 and pin34) of micrprocessor QU01.
	Ｄｉｓｃ が読み込めず No read の表示をする場合がある。	マイコンQU0 1 (PCB PQ0 1)のPin33とPin34 をショートさせる。

Table 7-2 µ-processor

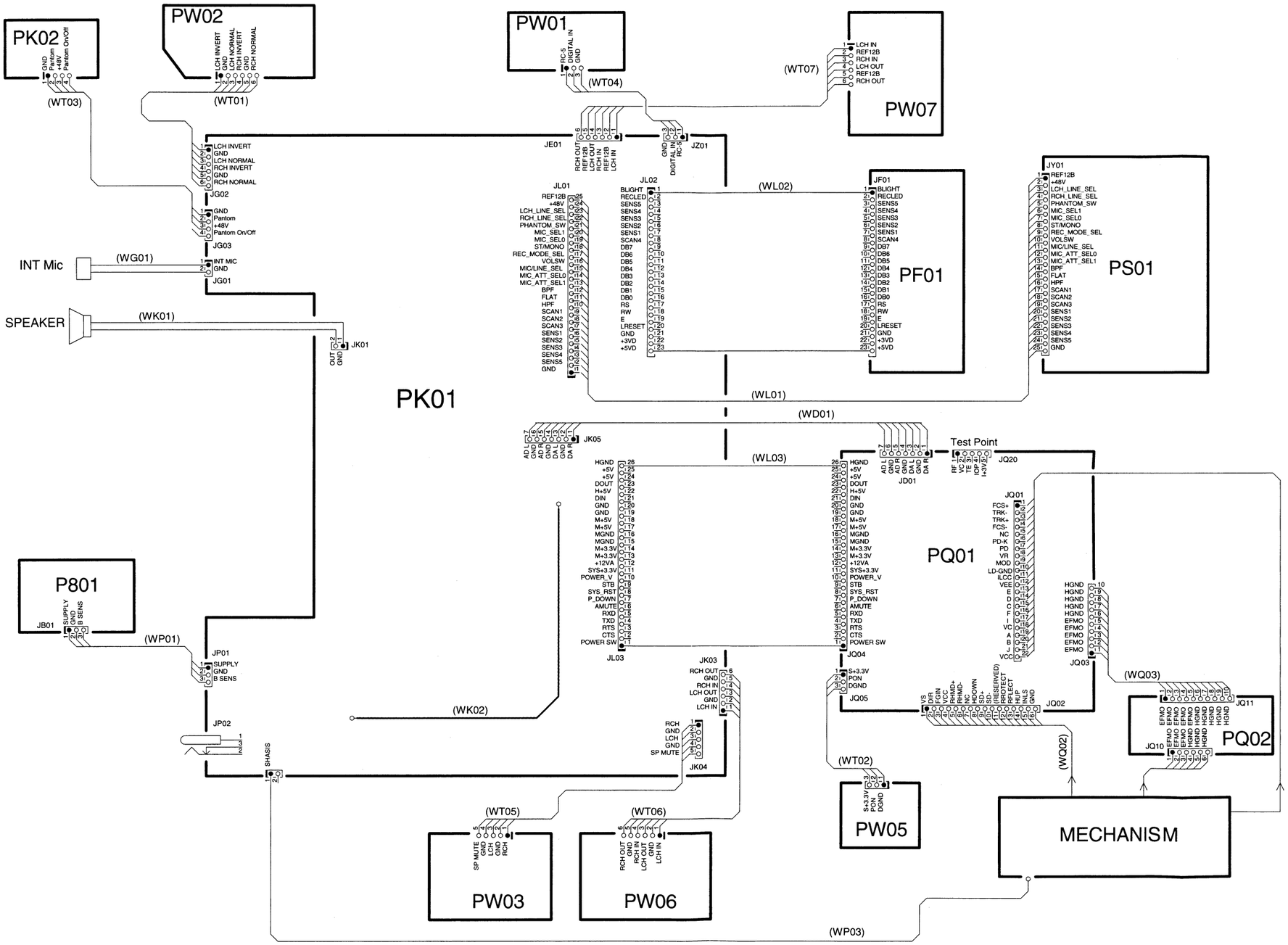
MD (QU01)	S20	First version	1st バージョン
µ-processor HU409ST00F 996500001345	S22	For solution of 80min MD disc time indication : pairing with Main microprocessor V57 or later is necessary.	８０分Ｄｉｓｃ表示対応版：Ｖ５７ 以降のメインマイコンとの組み合わせが必須
	S23	For solution of REC date/time compatibility with other MD recorder : pairing with Main microprocessor V58 or later is necessary.	Ｆ 向けのみ初ＬＯＴ（０７）からの対応：REC DATE 互換性対応版

Main (QL04)	V54	First version	1st バージョン
µ-processor HU409ST10F 996500003625	V55	For solution of MONO/STEREO selector problem	MONO/ST sel.修正
	V57	For solution of 80min MD disk time indication : pairing with MD microprocessor S22 or later is necessary.	８０分Ｄｉｓｃ 対応版：Ｓ２２ 以降の MD マイコンとの組み合わせが必須 HU409ST10F
	V58	For solution of REC date/time compatibility with other MD recorder : pairing with Main microprocessor S23 or later is necessary.	S23 と伴にバージョン表示修正

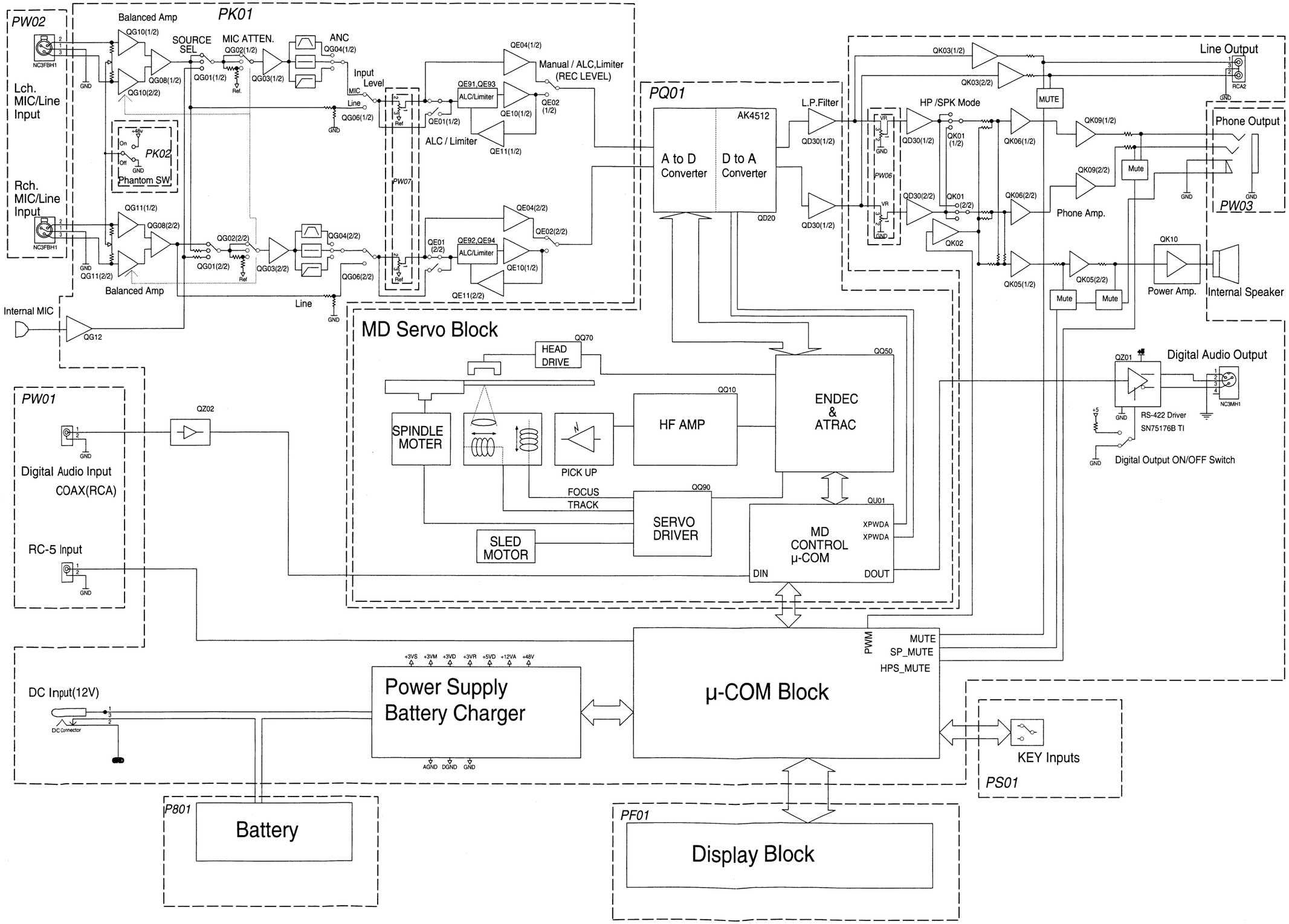
Table 7-3 Service cord and Lot

SERVICE CODE	LOT	Version	Quantity	µ-Processor version		Symptom				
				MD (QU01)	Main (QL04)	Phantom *1	REC DATE *2	MONO/ST sel. *3	80min MD *4	P-ON No read *5
02	02	U	200	S20	V55	OK	NG	OK	NG	OK
00	03	N	200	S20	V54	NG	NG	NG	NG	NG
00	04	N	200	S20	V54	NG	NG	NG	NG	NG
00	05	N	100	S20	V54	OK	NG	NG	NG	OK
02		N	115	S20	V55	NG	NG	OK	NG	NG
02		N	35	S20	V55	OK	NG	OK	NG	OK
02	06	N	200	S20	V55	OK	NG	OK	NG	OK
02		U	100	S20	V55	OK	NG	OK	NG	OK
03	07	N	300	S22	V57	OK	NG	OK	OK	OK
03		U	100	S22	V57	OK	NG	OK	OK	OK
04		F	100	S23	V58	OK	OK	OK	OK	OK
04	08	F	100	S23	V58	OK	OK	OK	OK	OK
05	09	N	160	S24	V59	OK	OK	OK	OK	OK
03	10	U	200	S22	V57	OK	NG	OK	OK	OK
04	11	N	250	S23	V58	OK	OK	OK	OK	OK
04		U	100	S24	V59	OK	OK	OK	OK	OK
04		F	100	S23	V58	OK	OK	OK	OK	OK
05	12			S24	V59					

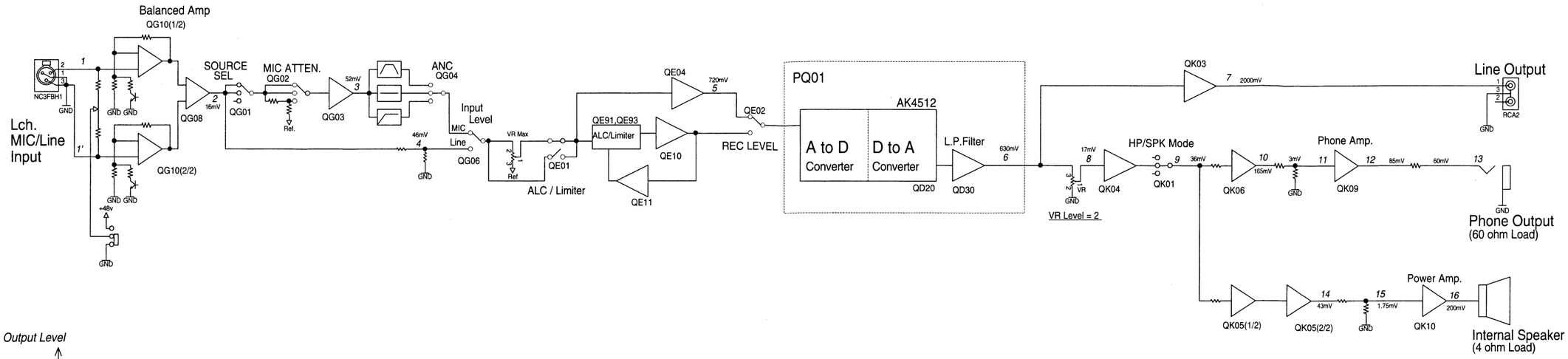
8. WIRING DIAGRAM

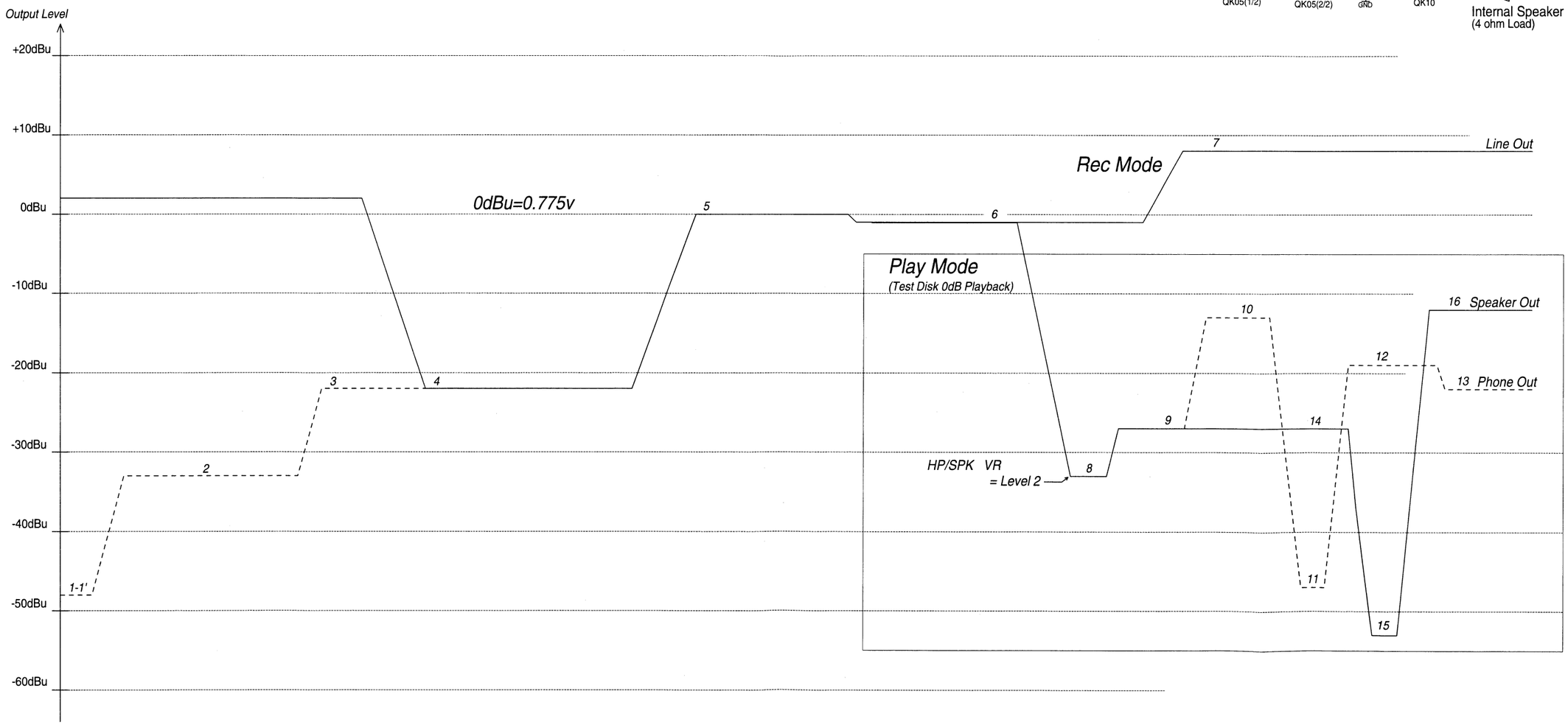


9. BLOCK DIAGRAM

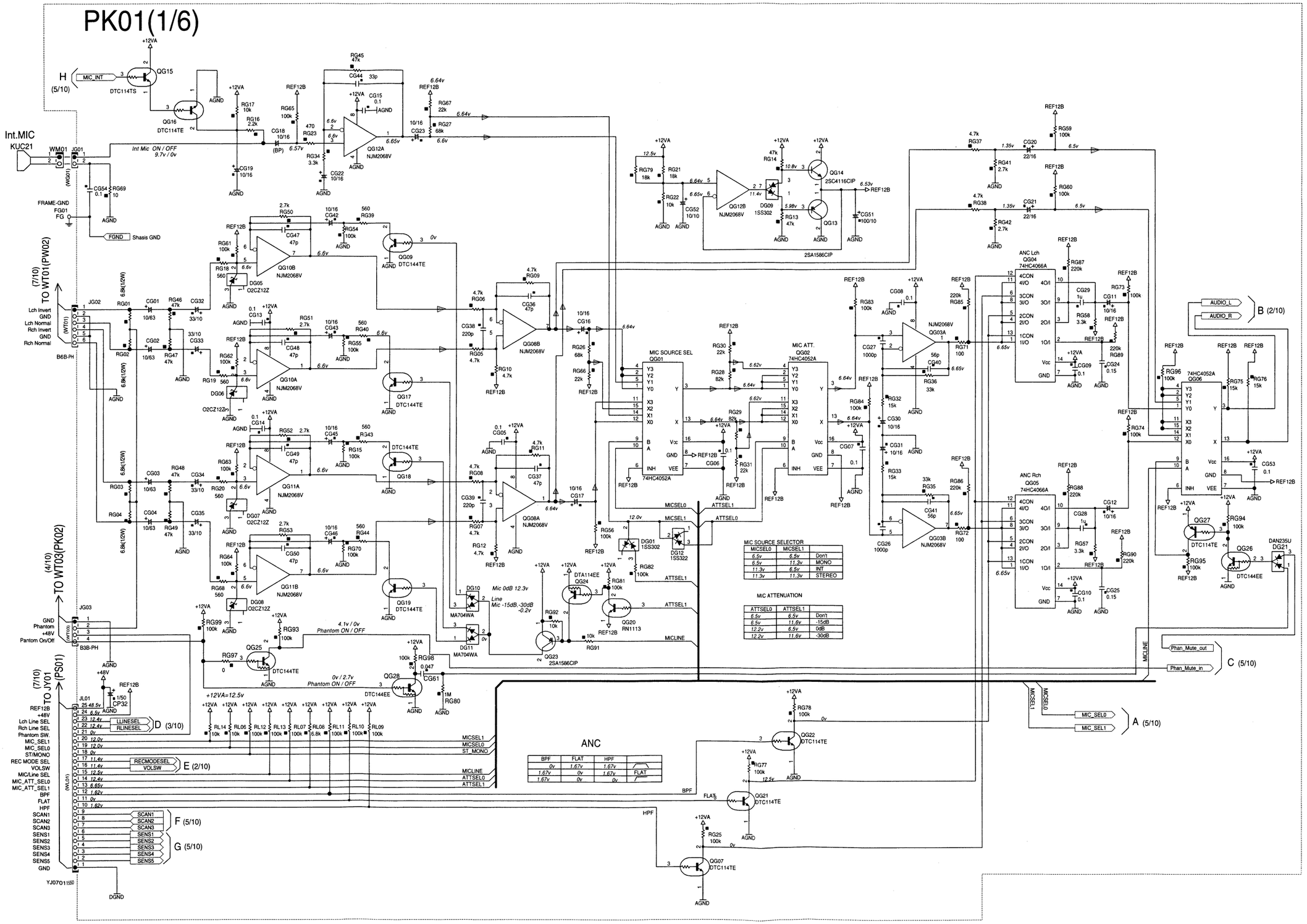


10. LEVEL DIAGRAM





11. SCHEMATIC DIAGRAM



MICSEL0	MICSEL1	
6.5v	6.5v	Don't
6.5v	11.3v	MONO
11.3v	6.5v	INT
11.3v	11.3v	STEREO

ATTSEL0	ATTSEL1	
6.5v	6.5v	Don't
6.5v	11.6v	-15dB
12.2v	6.5v	0dB
12.2v	11.6v	-30dB

BPF	FLAT	HPF	
0v	1.67v	1.67v	
1.67v	0v	1.67v	FLAT
1.67v	0v	0v	

PK01(2/6)

Page 7/10
TO WT07(PW07)

(WT07) JE01 B6B-PH

FG02 CE39 0.1 FRAME-GND CE40 0.1 Shasis GND FGND2

CE12 47/16 CE11 47/16 REF12B

+12VA CE02 0.1 AGND

QE04A NJM2068V: RE04 220K, CE20 10p, RE03 15K

QE04B NJM2068V: RE06 220K, CE21 10p, RE05 15K

10/16 CE31 10/16 CE32

+12VA CE03 0.1 AGND

QE10A NJM2068V: RE24 220K, CE25 10p, RE15 10K, RE32 15K

QE10B NJM2068V: RE25 220K, CE26 10p, RE16 10K, RE33 15K

CE41 10/16 CE42 10/16 CE43 10/16 CE44 10/16

REF12B RE28 10K RE29 10K RE45 10K RE46 10K

QE02 74HC4066A: 4CON 4I/O, 3CON 3I/O, 2CON 2I/O, 1CON 1I/O; +12VA CE05 0.1 AGND; Vcc GND

REF12B RE53 10K CE91 10/16 AD_L

REF12B RE54 10K CE92 10/16 AD_R

B Page 1/10

AUDIO_L AUDIO_R

QE01 74HC4066A: 4CON 4I/O, 3CON 3I/O, 2CON 2I/O, 1CON 1I/O; +12VA CE01 0.1 AGND; Vcc GND

REF12B RE26 2.2K RE27 2.2K

RE55 3.9k RE22 47K CE13 10/16 RE07 1K

RE56 3.9k RE23 47K CE14 10/16 RE08 1K

+12VA 2SC4116 QE91 RE91 10k RE92 10k RE95 100k

2SC4116 QE94 RE94 1k RE93 1k 2SC4116 QE93

2SC4116 QE92 RE96 100k CE15 10/16 CE16 10/16

47K RE19 CE23 33p +12VA CE04 0.1 AGND

QE11A NJM2068V: RE37 10K, RE30 8.2k, REF12B, AGND; 10/16 CE08, 100 RE17, 1SS302 DE01

47K RE20 CE24 33p

QE11B NJM2068V: RE38 10K, RE31 8.2k, REF12B, AGND; 10/16 CE27, 100 RE18, 1SS302 DE02

DE03 DAP202U: RE09 47k, CE28 220/6.3v, RE39 68k, RE40 10M, CE29 100/10, AGND

+12VA RE49 4.7K RE50 47k QE15 DTA114TE QE14 2SA1586CIP CE18 10/16 RE51 100K QE16 DTC114TE

REC MODE SELECTOR

VOLSW	RECMODESEL	
0v	0v	None
10.1v	10.1v	ALC
10.1v	0v	Limitter
0v	10.1v	MANUAL

E Page 1/10

RECMODESEL: +12VA RL15 10K, RE63 0, QE06 RN1113, RE01 6.8K

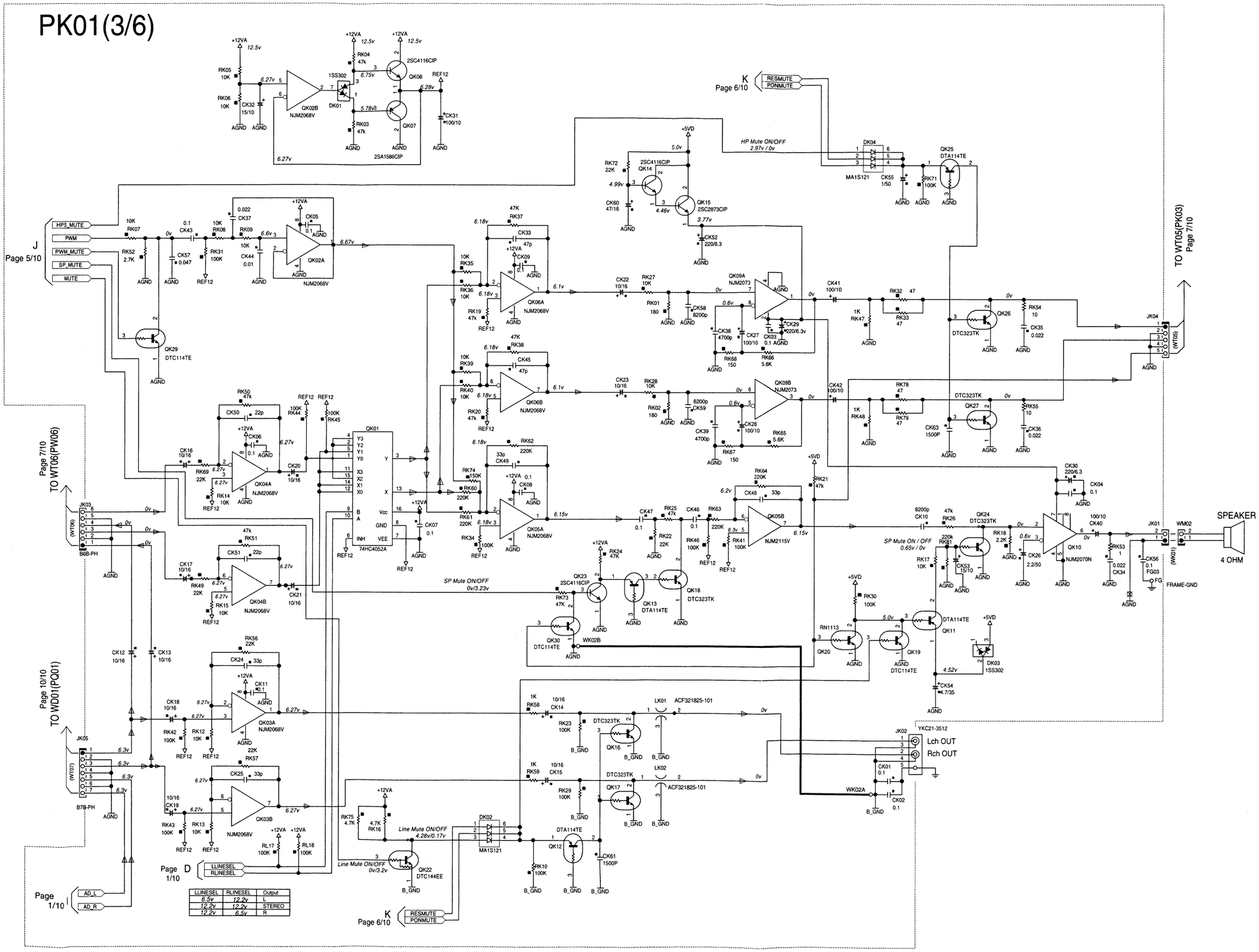
VOLSW: +12VA RL16 10K, RE64 0, QE09 DTC144EE, RE02 6.8K

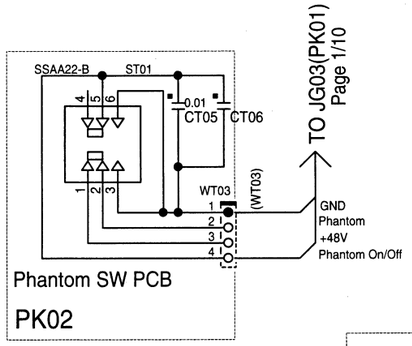
DE05 DAN235U: RE11 470K, +12VA RE12 100K, RE62 0, QE05 DTC115EE

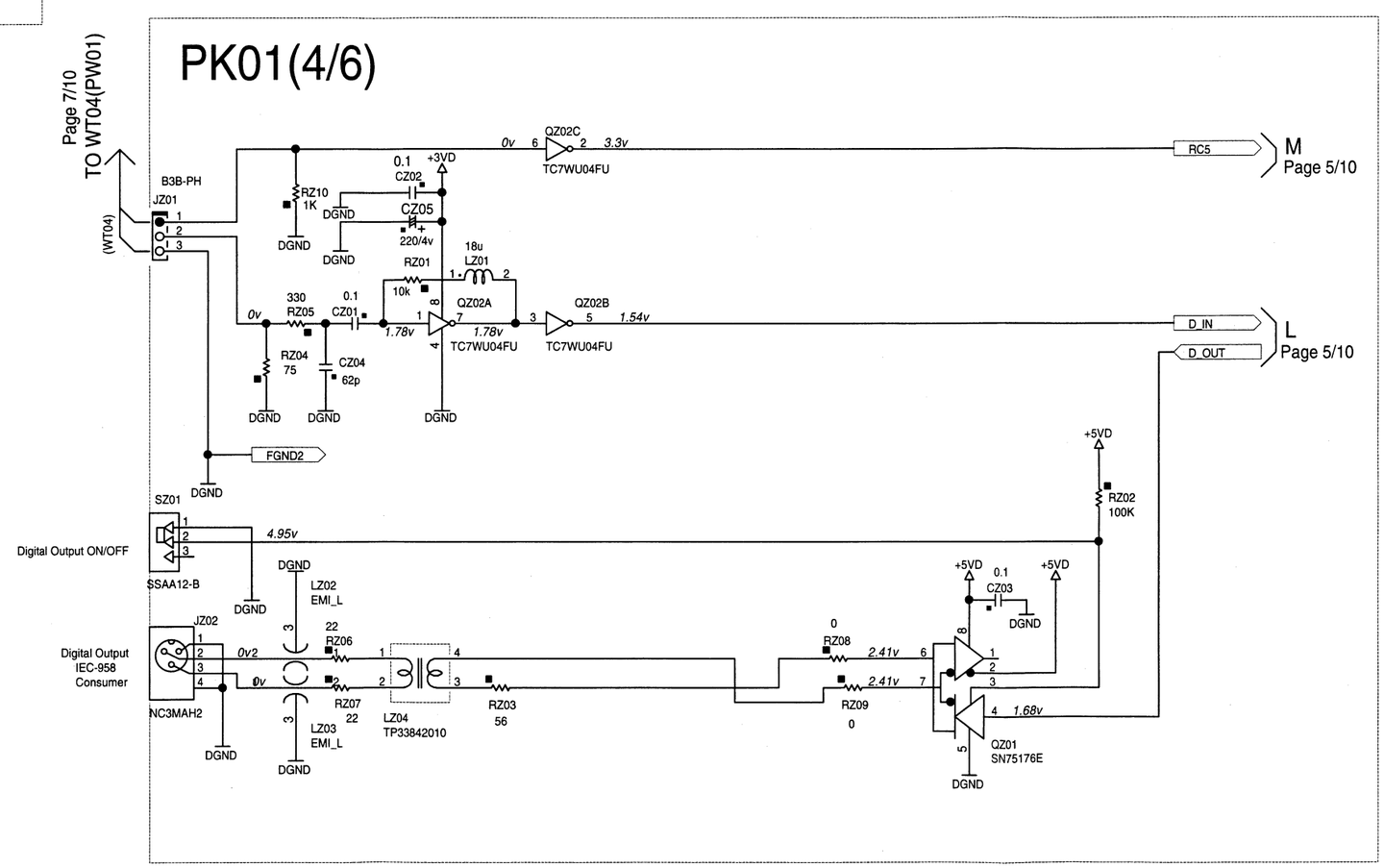
RE61 0, QE03 DTC115EE

I Page 3/10

PK01(3/6)


HPS_MUTE
PWM
PWM_MUTE
SP_MUTE
MUTE
J
Page 5/10
QK29 DTC114TE
QK02A NJM2068V
QK06A NJM2068V
QK06B NJM2068V
QK09A NJM2073
QK09B NJM2073
QK04A NJM2068V
QK04B NJM2068V
QK03A NJM2068V
QK03B NJM2068V
QK02B NJM2068V
QK05A NJM2068V
QK05B NJM2068V
QK01
74HC4052A
2SA1586CIP
2SC4116CIP
2SC2873CIP
DTC323TK
DTA114TE
DTC144EE
MA1S121
ACF321825-101
NJM2115V
NJM2070N
RESMUTE
PONMUTE
K
Page 6/10
HP Mute ON/OFF
2.97v / 0v
SP Mute ON/OFF
0v/3.23v
SP Mute ON / OFF
0.65v / 0v
Line Mute ON/OFF
4.28v/0.17v
Line Mute ON/OFF
0v/3.2v
TO WT05(PK03)
Page 7/10
Page 7/10
TO WT06(PW06)
Page 10/10
TO WD01(PQ01)
Page D
1/10
Page
1/10
LLINESEL
RLINESEL
AD_L
AD_R
LLINESEL | RLINESEL | Output
6.5v | 12.2v | L
12.2v | 12.2v | STEREO
12.2v | 6.5v | R
JK02
YKC21-3512
Lch OUT
Rch OUT
WK02A
WK02B
SPEAKER
4 OHM
FRAME-GND
(WT05)
(WT06)
(WT07)
(WM01)
(WM02)
B6B-PH
B7B-PH


SSAA22-B
ST01
0.01
CT05
CT06
WT03
(WT03)
TO JG03(PK01)
Page 1/10
GND
Phantom
+48V
Phantom On/Off
Phantom SW PCB
PK02


PK01(4/6)
Page 7/10
TO WT04(PW01)
(WT04)
B3B-PH
JZ01
RZ10
1K
DGND
0.1
CZ02
+3VD
CZ05
220/4v
0v
QZ02C
3.3v
TC7WU04FU
RC5
M
Page 5/10
18u
LZ01
RZ01
10k
330
RZ05
0.1
CZ01
QZ02A
QZ02B
1.54v
1.78v
D_IN
D_OUT
L
Page 5/10
RZ04
75
CZ04
62p
FGND2
SZ01
SSAA12-B
Digital Output ON/OFF
4.95v
+5VD
RZ02
100K
LZ02
EMI_L
JZ02
NC3MAH2
Digital Output
IEC-958
Consumer
0v2
22
RZ06
RZ07
LZ03
LZ04
TP33842010
RZ03
56
0
RZ08
RZ09
2.41v
0.1
CZ03
1.68v
QZ01
SN75176E

PK01(5/6)

TOSHIBA
TMP93CS44

TO JF01(PF01) Page 8/10

TO JQ04(PK01) Page 9/10

C Page 1/10 — Phan_Mute_out, Phan_Mute_in

N Page 6/10 — +48v_Control, CHGOFF, XPWCNT, VIN, VIN2, DCCK

M Page 4/10 — RC5

F Page 7/10 — SCAN1, SCAN2, SCAN3

J Page 3/10 — PWM, PWM_MUTE, HPS_MUTE, SP_MUTE, MUTE

G Page 1/10 — SENS1, SENS2, SENS3, SENS4, SENS5

L Page 5/10 — D_IN, D_OUT

A Page 1/10 — MIC_SEL1, MIC_SEL0

H Page 1/10 — MIC_INT

JL03 (WL03): POWER_SW, CTS, RTS, TXD, RXD, AMUTE, P_DOWN, SYS_RST, STB, POWER_V, SYS+3.3V, +12VA, M+3.3V, M+3.3V, MGND, MGND, M+5V, M+5V, GND, GND, DIN, H+5V, DOUT, +5V, +5V, HGND — 52808-2691

JL02 (WL02): +5VD, +3VD, GND, LRESET, E, RW, RS, DB0, DB1, DB2, DB3, DB4, DB5, DB6, DB7, SCAN4, SENS1, SENS2, SENS3, SENS4, SENS5, RECLED, BLIGHT — 52808-2391

QL11 DTC144EE, QL10 DTC144EE, QL09 S-81233SGUP, QL04 TMP93CS44, QL06 RS5C372A, QL05 S8052ANY-NH-X, QL07 DTC115TE, QL08 DTC115TE

DL01 1SS302, DL02 02CZ12-Y, DL03 02CZ12-Y

XL01 12.288M, XL02 CM200S

SL01 SKHVLH

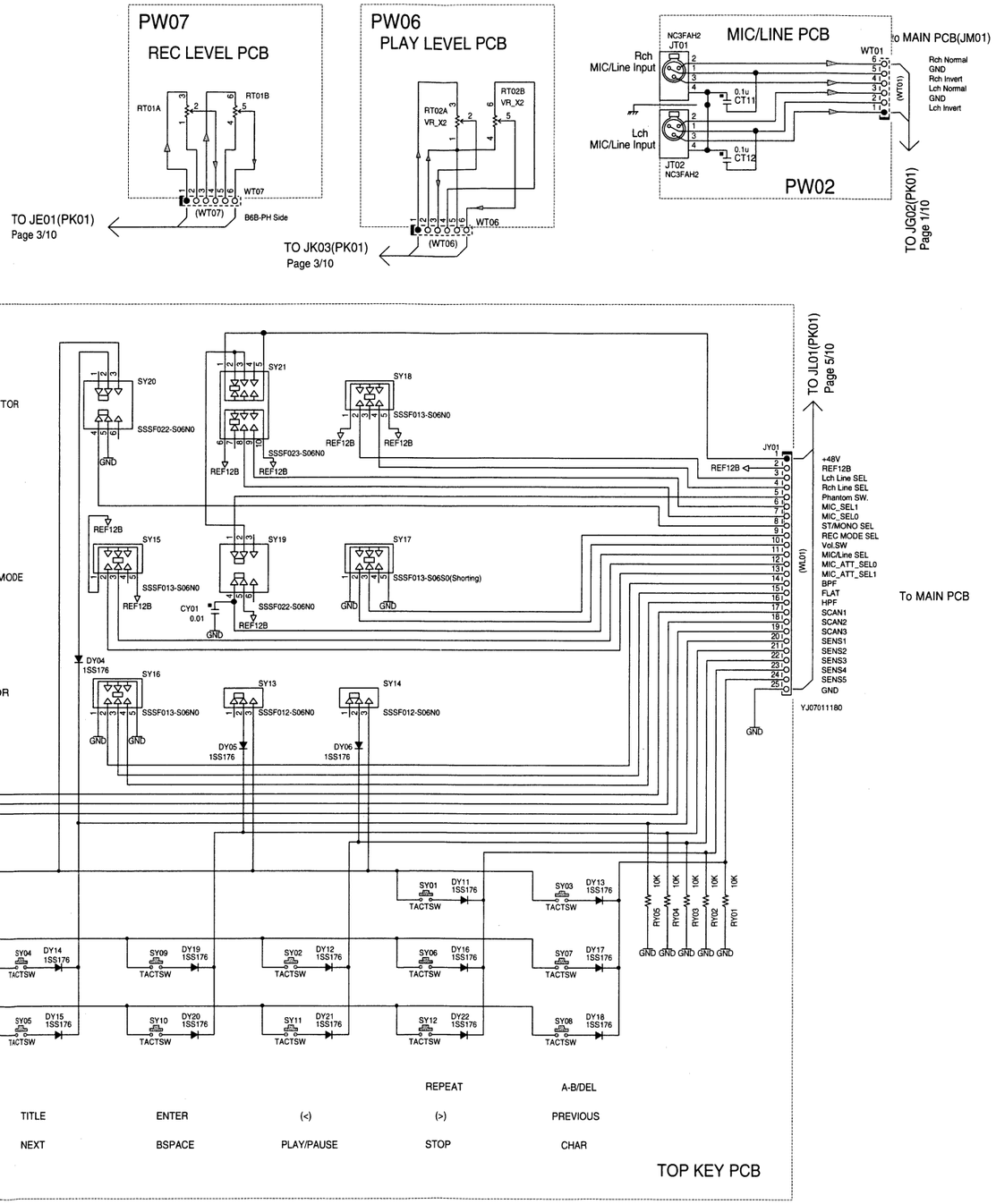
RL01 10K, RL02 10K, RL04 10K, RL20 10K, RL24 10, RL41 22K, RL23 47k, RL26 100K, RL22 47k, RL27 100K, RL21 470K, RL05 47k, RL19 1M, RL25 100K, RL28 100k, RL29 100k, RL30 100k, RL31 10k

CL01 0.1, CL02 0.1, CL03 0.1, CL04 0.1, CL05 1/50, CL06 12p, CL07 12p, CL08 2p, CL09 2p, CL10 0.1, CL11 0.1, CL12 1.0F, CL13 100/10, CL14 0.1

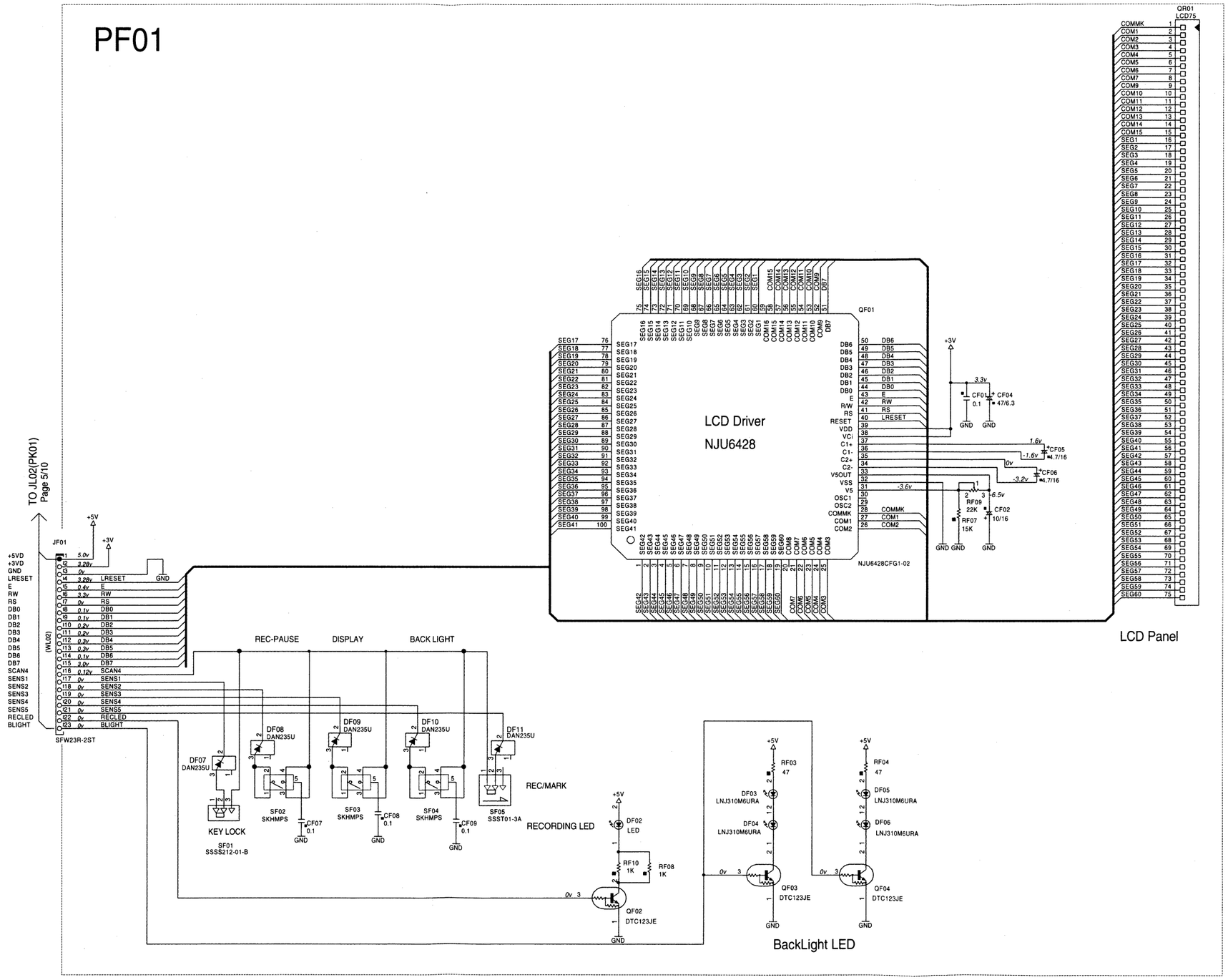
+5VD, +3VD, +3VM, +3VS, +3VR, +12VA, DGND, AGND, FGND Shasis GND

PK01(6/6)

DC IN
FP01
RXE135
NSQ03A04
JP02
JP01
JP03
(WP01)
(WP03)
TO JB01(P801)
MD MECHA CHASSIS
EC15QS02L
DP06
DP03
CP09 560/35
QP91 2SC2873
RP91 2.2k
RP92 2.2k
CP92 10/16
DP91 12v
CP93 0.1
CP16 47/16
DP14 1SS302
CP07 0.1u
RP25 100K
QP09 NJU7201U35
DP01 1SS322
CP19 47/4
DP11 1SS322
CP14 0.22F
DP12 1SS302
CP15 0.22F
DGND
3.68v
3.24v
4.2v
11.6v
11.57v
0.12v
16.2v
15.7v
0v
+5VD
+12VA
DP16 1SS302
QP10 PQ20VZ11
Vin VON Vout Vadj GND
5.0v
3.5v
1.25v
11.95v
CP20 10/16
RP27 10K
RP22 3.3K
RP24 3.3K
RP17 1K
DP07
CP13 47/4
CP02 0.1
QP04 LM2596S-5.0
VIN OUPUT GND FB ONX
RP28 47k
+3VM
LP03 47u
4.86v
5.0v
CP10 47/6.3
CP01 0.1
NSQ03A04 DP04
MA8033H DP15
2.4v
(1.25x0.7)
QP20 DTC123JE
RP12 100K(1%)
0.1 CP25
10K(1%) RP05
RESMUTE
PONMUTE
K Page 3/10
XPWCNT
DCCK
VIN2
VIN
CHGOFF
+48v_Control
N Page 5/10
QP11 NJM78L05UA
Vin GND Vout
CP17 15/10
DP13 O2CZ5.6Z
RP52 10.8v 0
RP54
QP19 DTC115EE
RP07 (2125) 20K
CP03 0.1
RP13 91K
CP08 22p
RP06
RP16 20K (2125)
QP12A NJM2904V
2.9v
3.55v
RP18 1K
DP10 1SS154
CP04 0.1
RP38 47k
RP39 47K
0.68v
2SC4116CIP QP21
5.6K RP40
RP10 47k
RP36 10K
0.62v
RP37 2.7K
QP07 2SC4116CIP
RP11 47k
RP08 22K
16.2v
QP01 2SA1586CIP
RP01 4.7K
QP03 2SC4116CIP
QP13 2SD1802S,T
DP17 1SS322
RP30 330(1W)
DTC123JE
QP15
RP15 100
RP02 100
UMW1N QP14
RP04 680
RP14 680
RP31 4.7(2W)
RP19 4.7(2W)
RP03 4.7K
DP02 1SS302
CP05 0.1
CSTCC4.00MG XP01
QP16 AS-211D
SILO VTH STH STM AV+ AV- VSS1 OSC1 OSC2 VDD RES VSS2 CHG/DCHG AD/CHG SUSA1
SRPT SSHT SOP VBATT STIM2 STIM1 SIM2 SIM1 LED2 LED1 SBATT DCHG TCHG CHG SUSA2
5.0v 2.1v 3.8v
Charge LED
DP09 LNJ210C6ARA
RP33 1.2K
RP34 1.2K
QP02 2SC4116CIP
RP20 1K
H : TRICKLE ON
RP32 150(1/4W)
L : CHARGE ON
RP35 10K
RP45 22K
RP47 10K
RP48 100K
RP46 1K
QP12B NJM2904V
15.0v
RP49 10K
7.7v
DAN235U DP45
RP50 47K
7.1v
QP17 DTC144EE
RP51 0
4.52v
EC15QS02L
LP02 100u
DP05
12.5v
QP05 NJM2360M
CS ES CT GND CD SI VDD INV
RP26 270
2.55v
1.26v
0.53v
CP21 180p
RP42 6.8K
RP43 100K
CP11 120/16
RP44 12K
QP06 LM2586S-ADJ
ON/OFF COMP FBACK GND SWITCH SYNC VIN
1.35v
1.23v
4.96v
LP01 150u
DP08 EC11FS2
48.0v
RP29 56K
RP66 0
RP09 1.2K
RP41 220
CP12 39/63
RP21 220K
47k RP63
47k RP64
CP06 10/16
RP23 330
2SD1006 QP31
QP32 2SC3324
RP61 47k
RP62 47k
CP31 1/50v
220k RP65


PW07
REC LEVEL PCB
RT01A
RT01B
WT07
(WT07)
B6B-PH Side
TO JE01(PK01)
Page 3/10
PW06
PLAY LEVEL PCB
RT02A
VR_X2
RT02B
VR_X2
WT06
(WT06)
TO JK03(PK01)
Page 3/10
MIC/LINE PCB
NC3FAH2
JT01
Rch
MIC/Line Input
Lch
MIC/Line Input
JT02
NC3FAH2
0.1u
CT11
0.1u
CT12
WT01
(WT01)
Rch Normal
GND
Rch Invert
Lch Normal
GND
Lch Invert
PW02
TO MAIN PCB(JM01)
TO JG02(PK01)
Page 1/10
PS01
REC MODE
SOURCE SELECTOR
SPK MODE
MIC ATT
LINE/MIC
RECORDING MODE
ANC
INPUT SELECTOR
VOR
SY20
SY21
SY18
SY15
SY19
SY17
SY16
SY13
SY14
SSSF022-S06N0
SSSF023-S06N0
SSSF013-S06N0
SSSF013-S06S0(Shorting)
SSSF012-S06N0
REF12B
GND
CY01
0.01
DY04
1SS176
DY05
1SS176
DY06
1SS176
JY01
+48V
REF12B
Lch Line SEL
Rch Line SEL
Phantom SW.
MIC_SEL1
MIC_SEL0
ST/MONO SEL
REC MODE SEL
Vol.SW
MIC/Line SEL
MIC_ATT_SEL0
MIC_ATT_SEL1
BPF
FLAT
HPF
SCAN1
SCAN2
SCAN3
SENS1
SENS2
SENS3
SENS4
SENS5
GND
YJ07011180
(WL01)
TO JL01(PK01)
Page 5/10
To MAIN PCB
SY01
SY03
SY04
SY09
SY02
SY06
SY07
SY05
SY10
SY11
SY12
SY08
TACTSW
DY11
1SS176
DY13
DY14
DY19
DY12
DY16
DY17
DY15
DY20
DY21
DY22
DY18
10K
RY05
RY04
RY03
RY02
RY01
TITLE
NEXT
ENTER
BSPACE
(<)
PLAY/PAUSE
REPEAT
(>)
STOP
A-B/DEL
PREVIOUS
CHAR
TOP KEY PCB
PW01
RCA1P
YT02010790
Digital Input
(SPDIF)
JT04
CT03 CT04
0.1 0.1
WT04
(WT04)
RCA1P
YT02010830
RC5Input
JT03
CT01 CT02
0.1 0.1
RC5/DIN PCB
TO JZ01(PK01)
Page 4/10
TO JK04(PK01)
Page3/10
PW03
(WT05)
WT05
JT05
HEADPHONE PCB

PF01


TO JL02(PK01)
Page 5/10
JF01
SFW23R-2ST
(WL02)
+5VD
+3VD
GND
LRESET
E
RW
RS
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
SCAN4
SENS1
SENS2
SENS3
SENS4
SENS5
RECLED
BLIGHT
REC-PAUSE
DISPLAY
BACK LIGHT
KEY LOCK
SF01
SSSS212-01-B
SF02
SKHMPS
SF03
SKHMPS
SF04
SKHMPS
SF05
SSST01-3A
REC/MARK
RECORDING LED
DF02
LED
QF02
DTC123JE
DF07
DAN235U
DF08
DAN235U
DF09
DAN235U
DF10
DAN235U
DF11
DAN235U
LCD Driver
NJU6428
QF01
NJU6428CFG1-02
QR01
LCD75
LCD Panel
BackLight LED
DF03
LNJ310M6URA
DF04
LNJ310M6URA
DF05
LNJ310M6URA
DF06
LNJ310M6URA
QF03
DTC123JE
QF04
DTC123JE

PQ01(1/2)

PQ02

MECHA

TEST Point

TO WT02(PW05) Page 10/10

TO JL03(PK01) Page 5/10

Page 10/10

QQ10 CXA2523AR

QQ50 CXD2652AR

QU01 TMP93CW40

TC74ACT540FT

QQ02 S-81227SGUP-DQZ-T2

QU20 AT24C02N

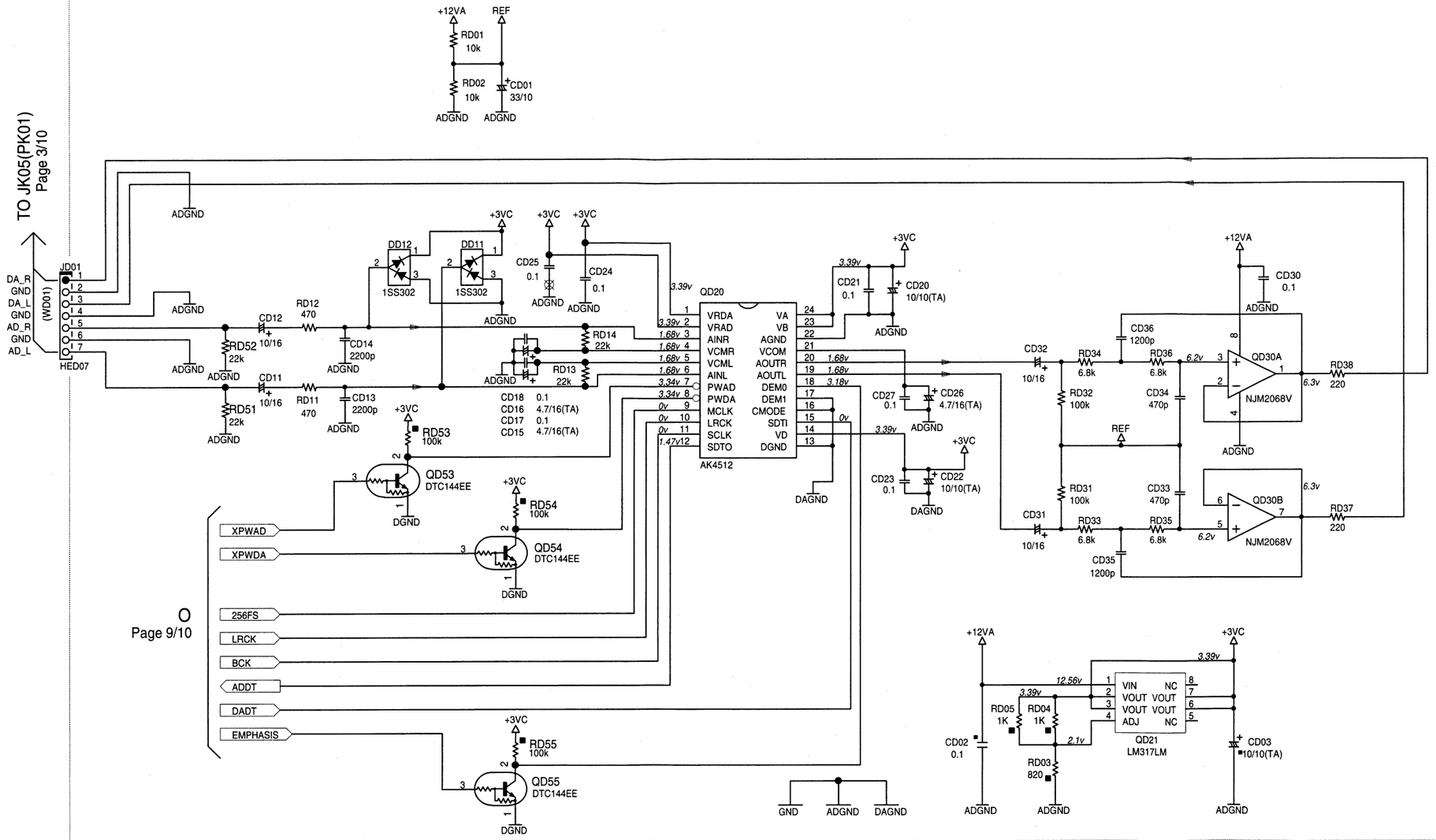
QU02 DTC123JE

QQ51 GM71VS164B

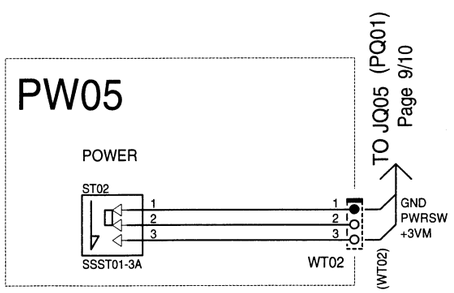
41

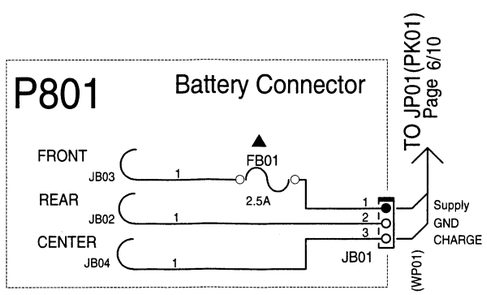
42

9/10


TO JK05(PK01)
Page 3/10
DA_R
GND
DA_L
GND
AD_R
GND
AD_L
(WD01)
JD01
HED07
ADGND
+12VA
REF
RD01 10k
RD02 10k
CD01 33/10
+3VC
DD12
DD11
1SS302
CD25 0.1
CD24 0.1
QD20
VRDA VA
VRAD VB
AINR AGND
VCMR VCOM
VCML AOUTR
AINL AOUTL
PWAD DEM0
PWDA DEM1
MCLK CMODE
LRCK SDTI
SCLK VD
SDTO DGND
AK4512
CD12 10/16
RD12 470
RD52 22k
CD14 2200p
CD11 10/16
RD11 470
RD51 22k
CD13 2200p
RD14 22k
RD13 22k
CD18 0.1
CD16 4.7/16(TA)
CD17 0.1
CD15 4.7/16(TA)
CD21 0.1
CD20 10/10(TA)
CD27 0.1
CD26 4.7/16(TA)
CD23 0.1
CD22 10/10(TA)
DAGND
RD53 100k
QD53 DTC144EE
RD54 100k
QD54 DTC144EE
DGND
XPWAD
XPWDA
256FS
LRCK
BCK
ADDT
DADT
EMPHASIS
RD55 100k
QD55 DTC144EE
GND
ADGND
DAGND
CD32 10/16
RD34 6.8k
RD36 6.8k
RD32 100k
CD34 470p
CD36 1200p
QD30A
NJM2068V
RD38 220
CD30 0.1
CD31 10/16
RD31 100k
CD33 470p
RD33 6.8k
RD35 6.8k
CD35 1200p
QD30B
NJM2068V
RD37 220
6.2v
6.3v
1.68v
3.39v
3.18v
1.47v
0v
12.56v
2.1v
+12VA
+3VC
QD21
LM317LM
VIN NC
VOUT VOUT
VOUT VOUT
ADJ NC
RD05 1K
RD04 1K
RD03 820
CD02 0.1
CD03 10/10(TA)

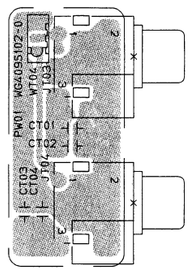
O
Page 9/10


PW05
POWER
ST02
SSST01-3A
WT02
(WT02)
TO JQ05 (PQ01)
Page 9/10
GND
PWRSW
+3VM

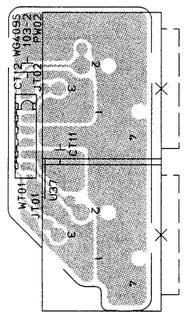

P801
Battery Connector
FRONT
REAR
CENTER
JB03
JB02
JB04
FB01
2.5A
JB01
(WP01)
TO JP01(PK01)
Page 6/10
Supply
GND
CHARGE

12. PARTS LOCATION

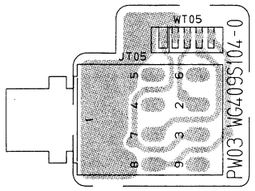
PW01



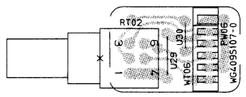
PW02



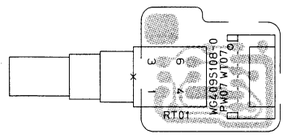
PW03



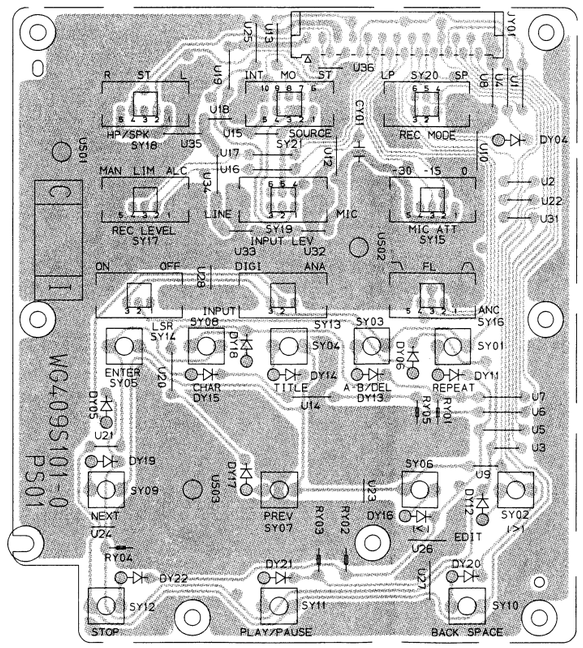
PW06



PW07



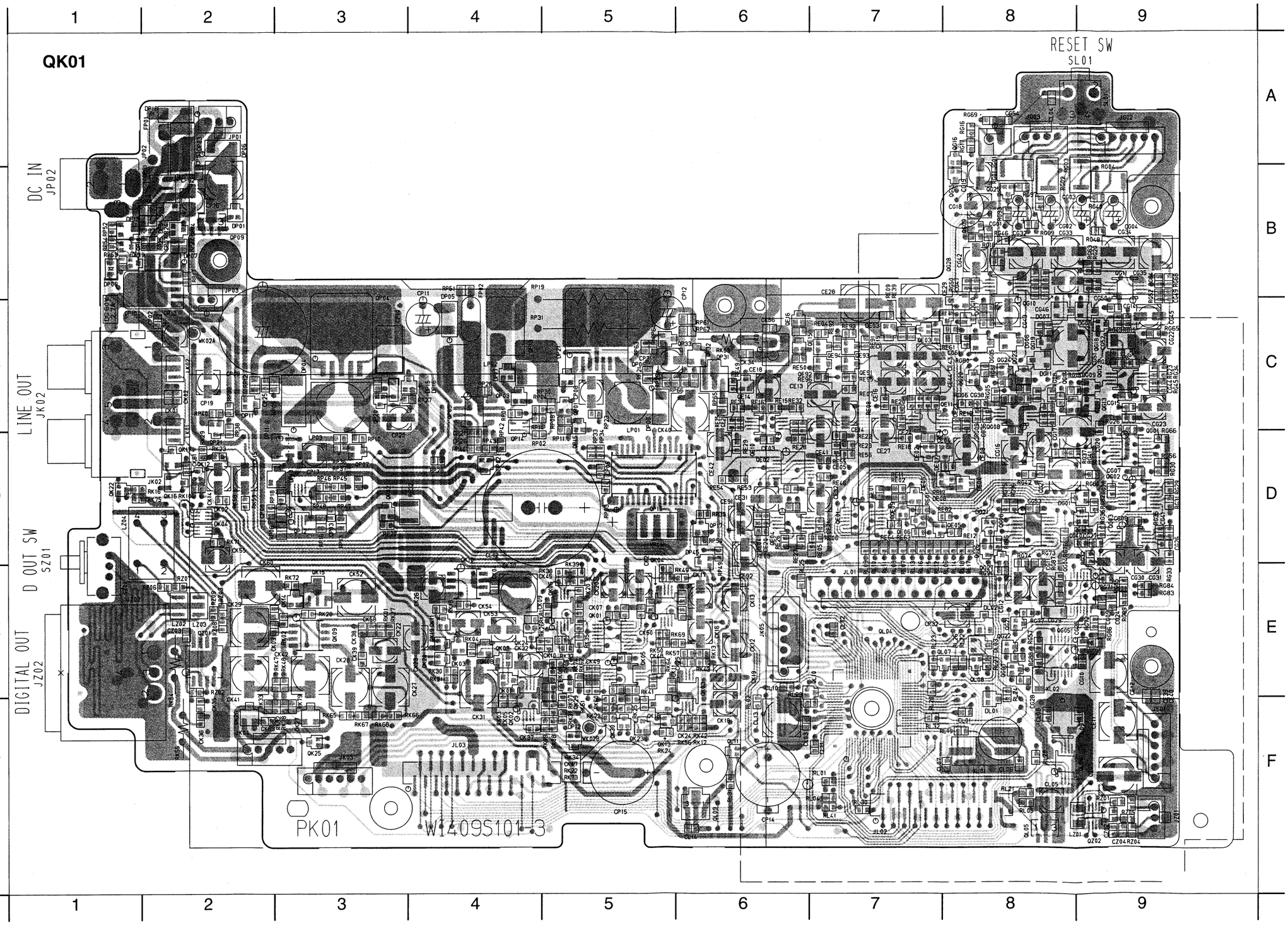
PS01



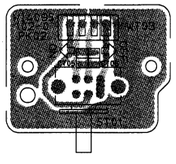
PK01:

QE01	D7	QL04	E7
QE02	D6	QL05	F8
QE03	C7	QL06	F8
QE04	D6	QL07	E8
QE05	D7	QL08	E8
QE06	D7	QL09	F6
QE09	D7	QL10	E6
QE10	C6	QL11	F6
QE11	C7		
QE14	C6	QP01	C5
QE15	C6	QP02	D3
QE16	C6	QP03	C4
QE91	C7	QP04	C3
QE92	C7	QP05	C4
QE93	C7	QP06	C5
QE94	C7	QP07	D3
		QP08	C5
QG01	D9	QP09	B2
QG02	D9	QP10	B2
QG03	D9	QP11	D3
QG04	E9	QP12	D3
QG05	E8	QP13	C4
QG06	D8	QP14	C4
QG07	E8	QP15	C5
QG08	C8	QP16	D5
QG09	B8	QP17	D5
QG10	B8	QP18	B1
QG11	B9	QP19	B1
QG12	C9	QP20	C3
QG13	C9	QP21	C2
QG14	C8	QP31	C6
QG15	B8	QP32	C6
QG16	A8	QP33	C5
QG17	C8	QP91	B2
QG18	C9		
QG19	C8	QZ01	E2
QG20	C8	QZ02	F9
QG21	E8		
QG22	E8		
QG23	C8		
QG24	C8		
QG25	B8		
QG26	D8		
QG27	D8		
QG28	C8		
QK01	E5		
QK02	F4		
QK03	E6		
QK04	E5		
QK05	E5		
QK06	E5		
QK07	E4		
QK08	E4		
QK09	E3		
QK10	E4		
QK11	E4		
QK12	D2		
QK13	F5		
QK14	E3		
QK15	E3		
QK16	D2		
QK17	D2		
QK18	F5		
QK19	E4		
QK20	E4		
QK22	D1		
QK23	F5		
QK24	E4		
QK25	F3		
QK26	F2		
QK27	F3		
QK29	E5		
QK30	F5		

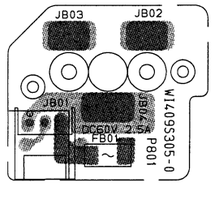
QK01


RESET SW
SL01
DC IN
JP02
LINE OUT
JK02
D OUT SW
SZ01
DIGITAL OUT
JZ02
PK01
W1409S101-3

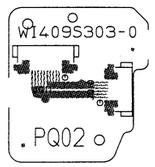
PK02



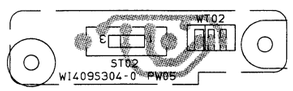
P801



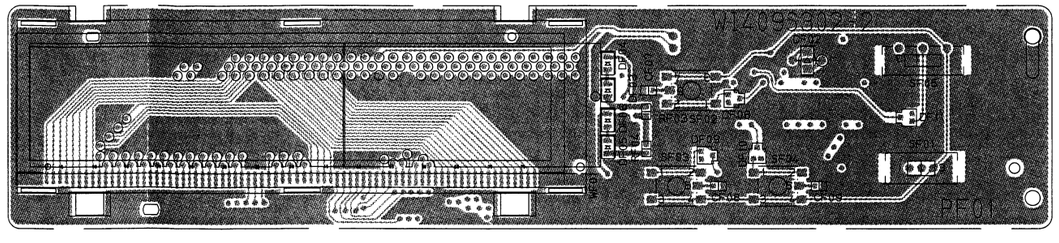
PQ02



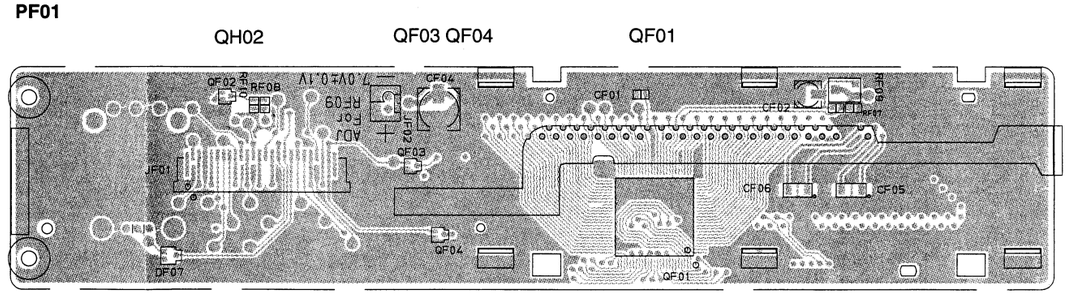
PW05

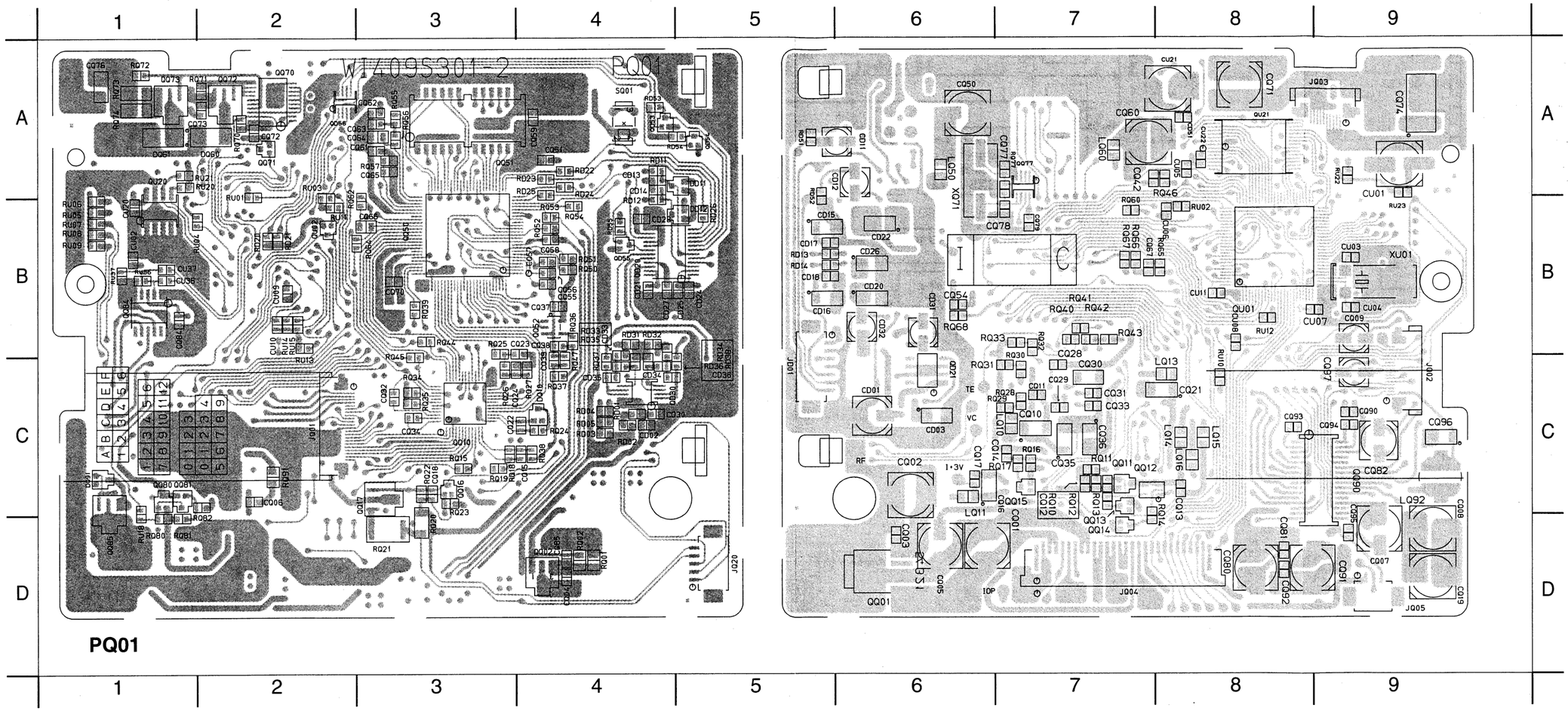


PF01



PF01



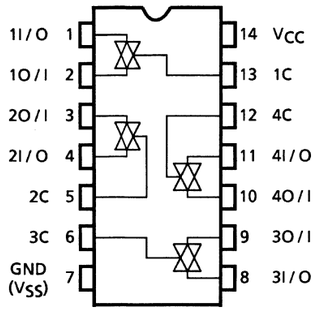


PQ01

QD20	B4	QQ50	B3
QD21	C6	QQ51	A3
QD53	A4	QQ52	B4
QD54	A5	QQ71	A2
QD55	B4	QQ72	A2
QD56	A2	QQ73	A1
		QQ77	A7
QQ01	D6	QQ80	C1
QQ02	D4	QQ81	C1
QQ10	C3	QQ84	B1
QQ11	C7	QQ85	C1
QQ12	C7	QQ90	C9
QQ13	C7		
QQ14	D7	QU01	B8
QQ15	C7	QU02	B2
QQ16	C3	QU20	B1
QQ17	C3	QU21	A8

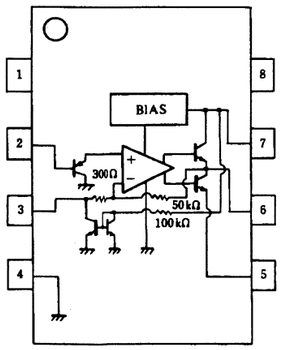
13. IMICROPROCESSOR C DATA

QE01 : TC74HC4066AFT



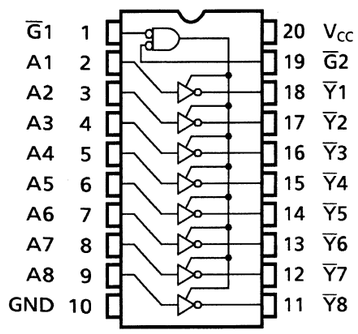
CONTROL	SWITCH FUNCTION
H	ON
L	OFF

QK10 : NJM2070

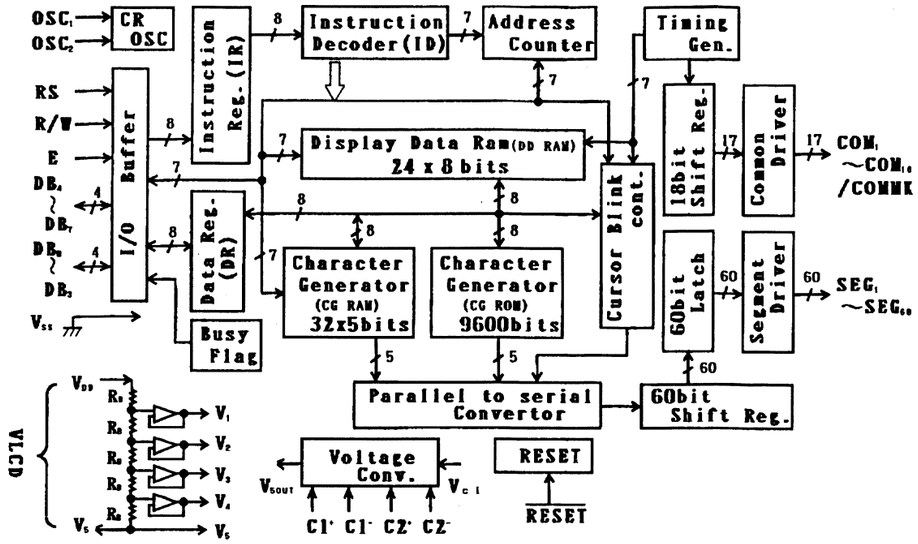


PIN FUNCTION
1 . NC
2 . +INPUT
3 . −INPUT
4 . GND
5 . GND
6 . OUTPUT
7 . V+
8 . NC

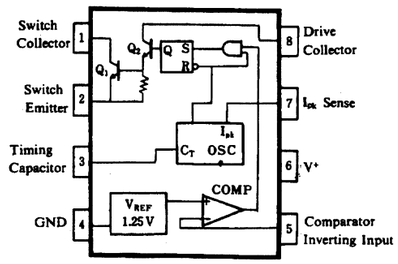
QQ70 : TC74ACT540



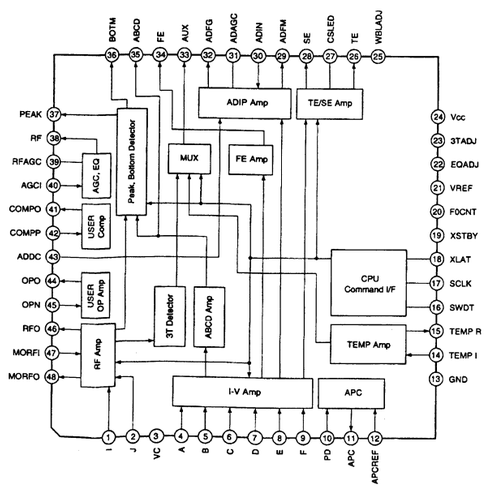
QF01 : NJU642806



QP05 : NJM2360



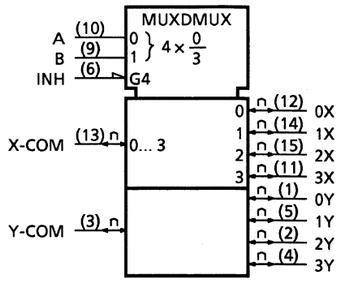
QQ10 : CXA2523AR


BOTM ABCD FE AUX ADFG ADAGC ADIN ADFM SE CSLED TE WBLADJ
PEAK RF RFAGC AGCI COMPO COMPP ADDC OPO OPN RFO MORFI MORFO
AGC, EQ
Peak, Bottom Detector
USER Comp
USER OP Amp
RF Amp
3T Detector
ABCD Amp
MUX
FE Amp
ADIP Amp
TE/SE Amp
I-V Amp
APC
CPU Command I/F
TEMP Amp
Vcc 3TADJ EQADJ VREF FOCNT XSTBY XLAT SCLK SWDT TEMP R TEMP I GND
I J VC A B C D E F PD APC APCREF

QP16 : AS-211D

No.	名 称	I/O	回路種類	端 子 機 能	
1	SILO	I	A	Set Initial Lock Out	初期タイマ時間設定
2	VTH	I	A	Voltage Thermistor	サーミスタ電圧読み込み
3	STH	I	A	Set Thermistor Hi Level	急速充電停止温度設定
4	STM	I	A	Set Thermistor Middle level	急速充電復帰温度設定
5	AV+	—	—	A/D Converter Reference Voltage Input	A/D変換用基準電圧 入力端子
6	AV−	—	—		
7	VSS1	—	—	Ground	グランド
8	OSC1	I	—	External Ceramic Resonator Connection	システムクロック用のセラミック発振子 外部クロック(4MHz)を接続し、OSC1へ入力
9	OSC2	O	—		無接続(開)状態
10	VDD	—	—	5V Supply	電源端子
11	RES	I	—	System Reset Input Normally High	システムリセット入力 プルアップ抵抗内蔵
12	VSS2	—	—	Ground	グランド
13	CHG/DCHG	I	B	Charge / Discharge Select	充電／放電切替入力
14	AD/CHG	I	B	Adapter / Charge Select	アダプター／充電切替入力
15	SUSA1	I	B	Select Usage 1	用途切替
16	SUSA2	I	B	Select Usage 2	
17	CHG	O	D	Charge Control	充電制御端子
18	TCHG	O	D	Trickle Charge Control	トリクル充電制御端子
19	DCHG	O	D	Discharge Control	放電制御端子
20	SBATT	O	D	Select Battery (NiCd / NiMH)	電池種別切替
21	LED1	O	C	LED1	充電表示LED駆動端子
22	LED2	O	C	LED2	放電表示LED駆動端子
23	SIM1	I	B	Select Indication Mode 1	充電／放電表示LED表示パターン選択
24	SIM2	I	B	Select Indication Mode 2	
25	STIM1	I	B	Select Timer 1	保護タイマ時間選択
26	STIM2	I	B	Select Timer 2	
27	VBATT	I	A	Voltage Battery	電池電圧読み込み
28	SOP	I	A	Set Open Battery Voltage	オープン電池検出レベル設定
29	SSHT	I	A	Set Short Battery Voltage	ショート電池検出レベル設定
30	SRPT	I	A	Set Repeat Charge Voltage	繰り返し充電再開レベル設定

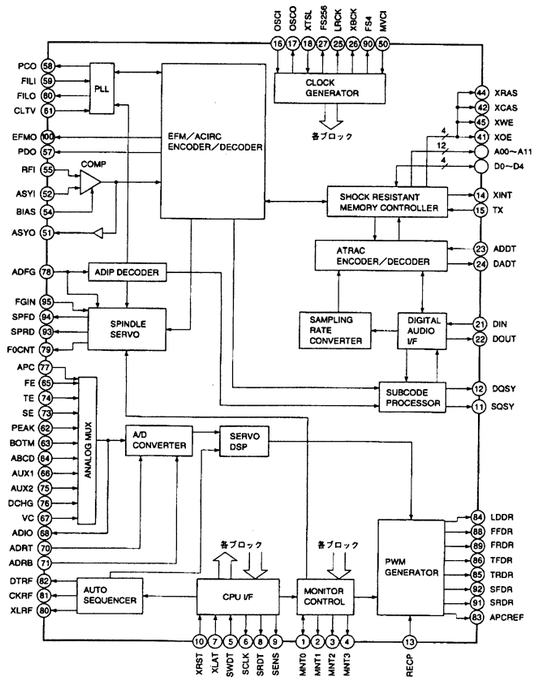
QG01 : TC74HC4052AF



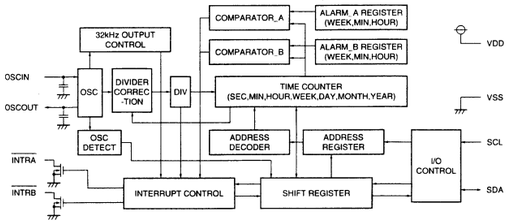
CONTROL INPUTS				"ON" CHANNEL		
INHIBIT	C*	B	A	HC4051A	HC4052A	HC4053A
L	L	L	L	0	0X, 0Y	0X,0Y,0Z
L	L	L	H	1	1X, 1Y	1X,0Y,0Z
L	L	H	L	2	2X, 2Y	0X,1Y,0Z
L	L	H	H	3	3X, 3Y	1X,1Y,0Z
L	H	L	L	4	– –	0X,0Y,1Z
L	H	L	H	5	– –	1X,0Y,1Z
L	H	H	L	6	– –	0X,1Y,1Z
L	H	H	H	7	– –	1X,1Y,1Z
H	X	X	X	NONE	NONE	NONE

X : Don't Care, * : Except HC4052A

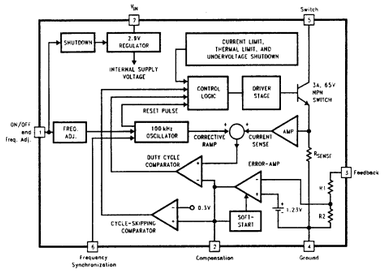
QQ50 : CXD2652AR



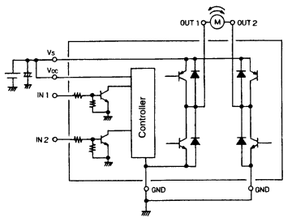
QL06 : RS5C372A



QP06 : LM2586

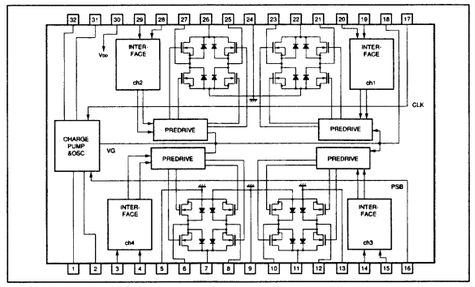


QQ84 : LB1638M



IN 1	IN 2	OUT 1	OUT 2	Mode
H	L	H	L	Forward
L	H	L	H	Reverse
H	H	L	L	Brake
L	L	OFF	OFF	Standby

QQ90 : BH6512FS



Pin No.	Pin name	Function	Pin No.	Pin name	Function
1	C2M	Negative connection pin for charge pump capacitor 2	17	CLK	Synchronous clock input
			18	VG	Charge pump output
2	C2P	Positive connection pin for charge pump capacitor 2	19	IN1R	Channel 1 reverse Input
			20	IN1F	Channel 1 forward Input
3	IN4R	Channel 4 reverse input	21	OUT1F	Channel 1 forward output
4	IN4F	Channel 4 forward input	22	VM1	Channel 1 power block power supply
5	GND4	Channel 4 GND and pre block GND	23	OUT1R	Channel 1 reverse output
6	OUT4F	Channel 4 forward output	24	GND12	Channels 1 and 2 power GND
7	VM4	Channel 4 power block power supply	25	OUT2R	Channel 2 reverse output
8	OUT4R	Channel 4 reverse output	26	VM2	Channel 2 power block power supply
9	GND34	Channels 3 and 4 power GND	27	OUT2F	Channel 2 forward output
10	OUT3R	Channel 3 reverse output	28	IN2F	Channel 2 forward input
11	VM3	Channel 3 power block power supply	29	IN2R	Channel 2 reverse input
12	OUT3F	Channel 3 forward output	30	Vcc	Pre block power supply
13	GND3	Channel 3 power GND	31	C1M	Negative connection pin for charge pump capacitor 1
14	IN3F	Channel 3 forward input			
15	IN3R	Channel 3 reverse input	32	C1P	Positive connection pin for charge pump capacitor 1
16	PSB	Power off			

QL04 : TMP93S44F

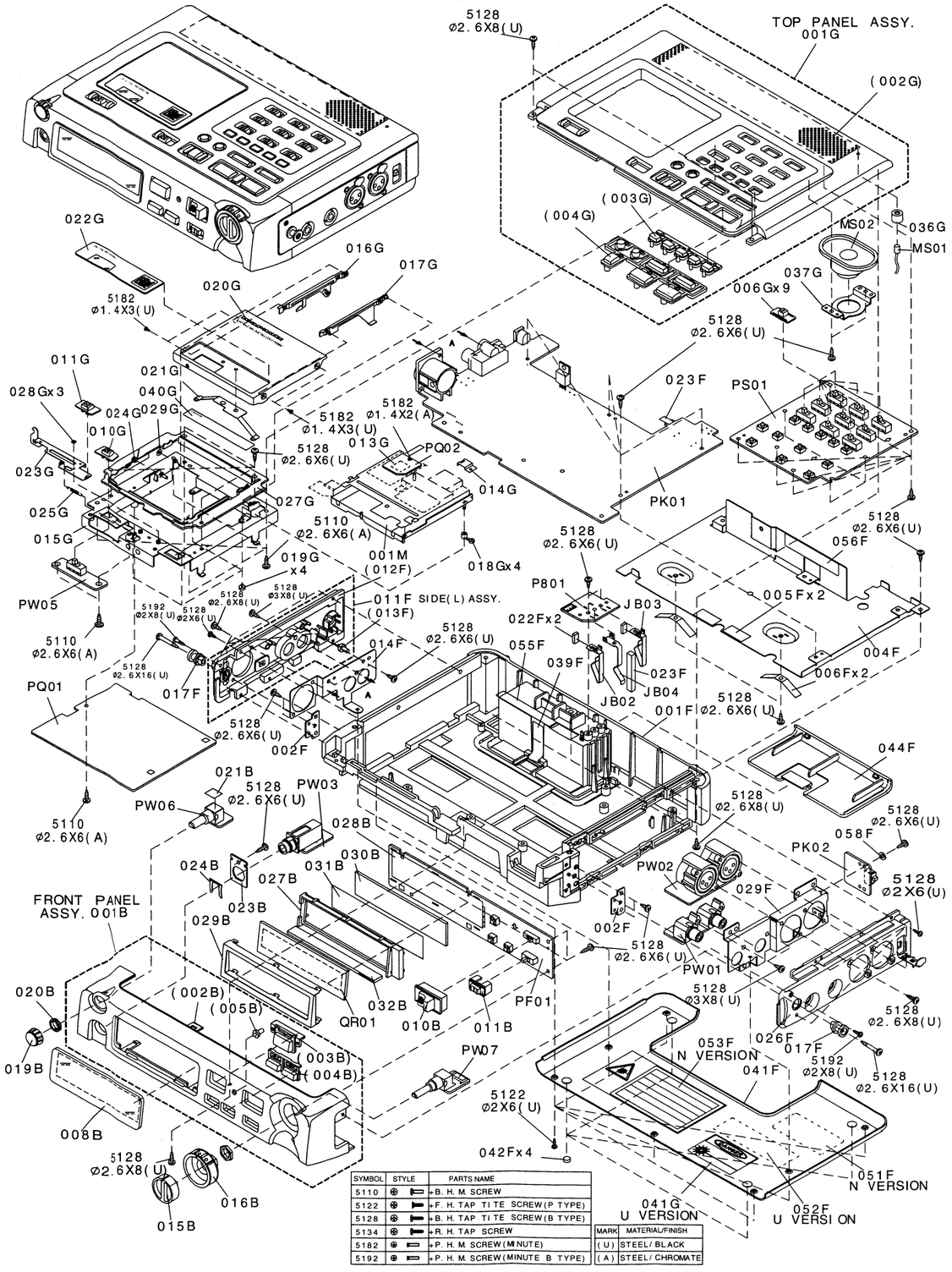
No.	Pin Name	I/O	Port Name	Remark	PU	ACTIVE	Init
1	P55/AN5	IN	KSENS2	Key sense	O	HIGH	LOW
2	P56/AN6	IN	KSENS3	Key sense	O	HIGH	LOW
3	P57/AN7	IN	KSENS4	Key sense	O	HIGH	LOW
4	NMXI	IN	NMIX	Fix to VCC	-	-	-
5	P60/TXD0	OUT	TXD	MD u-com serial output line	O	-	-
6	P61/RXD0	IN	RXD	MD u-com serial input line	O	-	-
7	P62/SCLK0/CTS0X	IN	CTS	MD u-com output ACK	O	LOW	HIGH
8	P63/TXD1	OUT	SCL	RTC shift clock	O	LOW	HIGH
9	P64/RXD1	I/O	SDA	RTC serial data line	O	LOW	HIGH
10	P65/SCLK1/CTS1X	OUT	NC	-	×	-	-
11	P70/WAITX	OUT	RTS	MD u-com output request	-	LOW	LOW
12	P71	OUT	SYSRST	MD u-com reset control	-	LOW	LOW
13	VSS	-	GND	GND	-	-	-
14	P72	OUT	PWRDW	MD u-com power down	-	LOW	LOW
15	P73	OUT	NC	AD/DA mute	-	LOW	LOW
16	P74	IN	STB	MD u-com power down ready	O	LOW	HIGH
17	P75	IN	MIC_SEL0	Souse SW	O	LOW	-
18	P76	IN	MIC_SEL1	Souse SW	O	LOW	-
19	P77	OUT	NC	-	-	-	-
20	CLK	OUT	NC	-	-	-	-
21	AM8/16	IN	+3.3V	Fix to VCC	-	-	-
22	X1	IN	X1	12.288MHz	-	-	-
23	X2	OUT	X2	12.288MHz	-	-	-
24	EAX	IN	EAX	Fix to VCC	-	-	-
25	RESETX	IN	RESETX	System reset	×	LOW	HIGH
26	P66/XT1	OUT	NC	-	-	-	-
27	P67/XT2	OUT	NC	-	-	-	-
28	TEST1	-	TEST1	Test pin (No used)	-	-	-
29	TEST2	-	TEST2	Test pin (No used)	-	-	-
30	VCC	-	+3.3V	Power supply	-	-	-
31	VSS	-	GND	GND	-	-	-
32	ALE	OUT	NC	-	-	-	-
33	P00/AD0	OUT	DRSTX	Display reset	-	LOW	HIGH
34	P01/AD1	OUT	DRS	Resister select	-	-	LOW
35	P02/AD2	OUT	DRW	Display data read/write	-	-	HIGH
36	P03/AD3	OUT	DE	Display enable	-	-	LOW
37	P04/AD4	OUT	NC	-	-	-	-
38	P05/AD5	OUT	NC	-	-	-	-
39	P06/AD6	OUT	NC	-	-	-	-
40	P07/AD7	OUT	NC	-	-	-	-
41	P10/AD8/A8	I/O	DB0	Display data bus	-	-	-
42	P11/AD9/A9	I/O	DB1	Display data bus	-	-	-
43	P12/AD10/A10	I/O	DB2	Display data bus	-	-	-
44	P13/AD11/A11	I/O	DB3	Display data bus	-	-	-
45	P14/AD12/A12	I/O	DB4	Display data bus	-	-	-
46	P15/AD13/A13	I/O	DB5	Display data bus	-	-	-
47	P16/AD14/A14	I/O	DB6	Display data bus	-	-	-
48	P17/AD15/A15	I/O	DB7	Display data bus	-	-	-
49	P20/A16/A0	OUT	RECLED	Record LED control	×	HIGH	LOW
50	P21/A17/A1	OUT	BKLT	LCD back light control	×	HIGH	LOW
51	P22/A18/A2	OUT	MUTE	Output mute	×	HIGH	HIGH
52	P23/A19/A3	OUT	SPMUTE	Speak mute	×	HIGH	HIGH
53	P24/A20/A4	OUT	POFMUTE	Power off mute	×	HIGH	HIGH
54	P25/A21/A5	OUT	PMWMUT	PMW mute control	×	HIGH	HIGH
55	P26/A22/A6	OUT	XPWCNT	DC/DC control	×	HIGH	LOW
56	P27/A23/A7	OUT	CHGOFF	Charge control	×	HIGH	LOW
57	VCC	-	VCC	Power supply	-	-	-
58	P30/RDX	OUT	KSCAN0	Key scan	-	HIGH	LOW
59	P31/WRX	OUT	KSCAN1	Key scan	-	HIGH	LOW
60	P32/HWRX/SCK	OUT	KSCAN2	Key scan	×	HIGH	LOW
61	P33/SO/SDA	OUT	KSCAN3	Key scan	-	HIGH	LOW
62	P34/SI/SDA	OUT	NC	-	-	-	-
63	P35/INT0	IN	PWRSW	Power SW	O	HIGH	LOW
64	P40/TI0/INT1	OUT	NC	-	-	-	-
65	P41/TO3	OUT	BUZZER	Buzzer output	-	-	LOW
66	P42/TI4/INT4	IN	RC5IN	RC5 input	O	-	HIGH
67	P43/TI5/INT5	OUT	NC	-	-	-	-
68	P44/TO4	OUT	NC	-	-	-	-
69	P45/TI6/INT6	IN	VIN	Power sense	O	LOW	-
70	P46/TI7/INT7	IN	VIN1	Battery sense	O	LOW	-
71	P47/TO6	OUT	NC	-	-	-	-
72	VREFH	IN	+3.3V	AD Ref. high level	-	-	-
73	VREFL	IN	GND	AD Ref. low level	-	-	-
74	AVSS	-	GND	AD GND	-	-	-
75	AVCC	-	+3.3V	AD Power	-	-	-
76	P50/AN0	IN	DCCK	DC power voltage check	-	-	-
77	P51/AN1	IN	GND	-	-	-	-
78	P52/AN2	IN	GND	-	-	-	-
79	P53/AN3/ADTRGX	IN	KSENS0	Key sense	O	HIGH	LOW
80	P54/AN4	IN	KSENS1	Key sense	O	HIGH	LOW

QU01 : TMP93W40DF

No.	PIN NAME	I/O	PORT	REMARK	PU	ACTIVE	INIT
1	VREF	-	VERF	Reference voltage	-	-	-
2	AVSS	-	AVSS	Analog GND	-	-	-
3	AVCC	-	AVCC	Analog power supply	-	-	-
4	XNMI	IN	XNMI	No mask interrupt	-	LOW	HIGH
5	P70/T10	IN	MINT0	DSP monitor line	-	-	-
6	P71/TO1	IN	MINT1	DSP monitor line	-	-	-
7	P72/TO2	IN	MINT2	DSP monitor line	-	-	-
8	P73/TO3	IN	MINT3	DSP monitor line	-	-	-
9	P80/INT4/TI4	IN	XINT	AI,DI,FS interrupt	-	LOW	HIGH
10	P81/INT5/TI5	IN	SQSY	SUB-Q/ADIP interrupt	-	LOW	HIGH
11	P82/TO4	OUT	XLAT	Command latch sign	-	-	-
12	P83/TO5	IN	DQSY	SUB-Q/ADIP read line	-	-	-
13	P84/INT6/TI6	OUT	TX	EFM output enable for recording	-	-	-
14	P85/INT7/TI7	OUT	RECP	Laser power change for recording	-	-	-
15	P86/TO6	OUT	CTS	Data send enable/disable	-	-	-
16	P87/INT0	IN	PWRDW	Power down sign	-	LOW	HIGH
17	P90/TXD0	OUT	TXD	Serial data output	-	-	-
18	P91/RXD0	IN	RXD	Serial data input	-	-	-
19	P92/CTS0/SCLK0	IN	RTS	Data receive OK	-	LOW	HIGH
20	P3/TXD1	OUT	SCL	EEP read/write clock	O	-	-
21	P94/RXD1	I/O	SDA	EEP read/write data	O	-	-
22	P95/SCLK1	OUT	XRST	DSP reset sign	-	-	-
23	A8/16	IN	A8/16	Bus setting	-	-	-
24	CLK	OUT	CLK	Clock output	-	-	-
25	VCC	-	VCC	Power supply	-	-	-
26	VSS	-	VSS	Power GND	-	-	-
27	X1	IN	X1	Crystal input	-	-	-
28	X2	OUT	X2	Crystal output	-	-	-
29	XEA	IN	XEA	Internal ROM	-	-	-
30	XRESET	IN	XRESET	u-com reset	-	LOW	HIGH
31	P96/XT1	OUT	NC	Not used	-	-	-
32	P97/XT2	OUT	NC	Not used	-	-	-
33	TEST1	IN	NC	Test pin	-	-	-
34	TEST2	IN	NC	Test pin	-	-	-
35	PA0	IN	TEST0	Not used	-	-	-
36	PA1	IN	TEST1	Not used	-	-	-
37	PA2	IN	TEST2	Not used	-	-	-
38	PA3	IN	TEST3	Not used	-	-	-
39	PA4	IN	TEST4	Not used	-	-	-
40	PA5	IN	TEST5	Not used	-	-	-
41	PA6	IN	TEST6	Not used	-	-	-
42	PA7/SCOUT	IN	TEST7	Not used	-	-	-
43	ALE	OUT	ALE	Not used	-	-	-
44	VCC	-	VCC	Power supply	-	-	-
45	P00/AD0	IN	D0	S-RAM data bus, not used	-	-	-
46	P01/AD1	IN	D1	S-RAM data bus, not used	-	-	-
47	P02/AD2	IN	D2	S-RAM data bus, not used	-	-	-
48	P03/AD3	IN	D3	S-RAM data bus, not used	-	-	-
49	P04/AD4	IN	D4	S-RAM data bus, not used	-	-	-
50	P05/AD5	IN	D5	S-RAM data bus, not used	-	-	-
51	P06/AD6	IN	D6	S-RAM data bus, not used	-	-	-
52	P07/AD7	IN	D7	S-RAM data bus, not used	-	-	-

53	P10/AD8/A8	IN	A8	S-RAM address bus, not used	-	-	-
54	P11/AD9/A9	IN	A9	S-RAM address bus, not used	-	-	-
No.	PIN NAME	I/O	PORT	REMARK	PU	ACTIVE	INIT
55	P12/AD10/A10	IN	A10	S-RAM address bus, not used	-	-	-
56	P13/AD11/A11	IN	A11	S-RAM address bus, not used	-	-	-
57	P14/AD12/A12	IN	A12	S-RAM address bus, not used	-	-	-
58	P15/AD13/A13	IN	A13	S-RAM address bus, not used	-	-	-
59	P16/AD14/A14	IN	A14	S-RAM address bus, not used	-	-	-
60	P17/AD15/A15	IN	NC	S-RAM address bus, not used	-	-	-
61	XWDTOUT	OUT	NC	Watch dog timer output, not used	-	-	-
62	VSS	-	VSS	Power GND	-	-	-
63	VCC	-	VCC	Power supply	-	-	-
64	P20/A0/A16	IN	A0	S-RAM address bus, not used	-	-	-
65	P21/A1/A17	IN	A1	S-RAM address bus, not used	-	-	-
66	P22/A2/A18	IN	A2	S-RAM address bus, not used	-	-	-
67	P23/A3/A19	IN	A3	S-RAM address bus, not used	-	-	-
68	P24/A4/A20	IN	A4	S-RAM address bus, not used	-	-	-
69	P25/A5/A21	IN	A5	S-RAM address bus, not used	-	-	-
70	P26/A6/A22	IN	A6	S-RAM address bus, not used	-	-	-
71	P27/A7/A23	IN	A7	S-RAM address bus, not used	-	-	-
72	P30/XRD	IN	XRD	S-RAM read control, not used	-	-	-
73	P31/XWR	IN	XWR	S-RAM write control, not used	-	-	-
74	P32/XHWR	OUT	SWDT	DSP command write	-	-	-
75	P33/XWAIT	IN	SRDT	DSP status read	-	-	-
76	P34/XBURQS	OUT	SCLK	DSP read/write clock	-	-	-
77	P35/XBUSAK	IN	NC	Not used	-	-	-
78	P36/R/XW	IN	NC	Not used	-	-	-
79	P37/XRAS	IN	NC	Not used	-	-	-
80	P40/XCS0/XCAS0	IN	XCS0	S-RAM chip select, not used	-	-	-
81	P41/XCS1/XCAS1	OUT	HDM+	Head motor up control	-	-	-
82	P42/XCS2/XCAS2	OUT	HDM-	Head motor down control	-	-	-
83	P60/PG00	OUT	LDON	Laser control	-	-	-
84	P61/PG01	OUT	MOD	Modulation control	-	-	-
85	P62/PG02	OUT	STB	Standby sign	-	-	-
86	P63/PG03	OUT	EMP	Emphasis control	O	-	-
87	P64/PG10	OUT	AMUTE	Mute control	-	-	-
88	P65/PG11	OUT	XPWAD	A/D convert power down	-	-	-
89	P66/PG12	OUT	XPWDA	D/A convert power down	-	-	-
90	P67/PG13	IN	NC	Not used	-	-	-
91	VSS	-	VSS	Power GND	-	-	-
92	P50/AN0	IN	OPEN SW	Open switch input	-	-	-
93	P51/AN1	IN	HUP SW	Head up switch input	-	-	-
94	P52/AN2	IN	HDW SW	Head down switch input	-	-	-
95	P53/AN3	IN	INLS SW	Limit switch input	-	-	-
96	P54/AN4	IN	PROT SW	Protect switch input	-	-	-
97	P55/AN5	IN	REFCT SW	Reflect switch input	-	-	-
98	P56/AN6	IN	FGAIN	Spindle motor speed reference	-	-	-
99	P57/AN7	IN	SENS	Sense for DSP	-	-	-
100	VREFH	-	VREFH	Reference voltage	-	-	-

14. EXPLODED VIEW AND PARTS LIST



SYMBOL	STYLE	PARTS NAME
5110	⊕	+B. H. M. SCREW
5122	⊕	+F. H. TAP TITE SCREW(P TYPE)
5128	⊕	+B. H. TAP TITE SCREW(B TYPE)
5134	⊕	+R. H. TAP SCREW
5182	⊕	+P. H. M. SCREW(MINUTE)
5192	⊕	+P. H. M. SCREW(MINUTE B TYPE)

MARK	MATERIAL/FINISH
(U)	STEEL/ BLACK
(A)	STEEL/ CHROMATE

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
001B		996500003142	FRONT PANEL K	409S248500
002B			FRONT PANEL	***
003B			BUTTON REC PAUSE	***
004B			BUTTON DISPLAY	***
005B			LENS	***
008B		996500003143	WINDOW LCD	409S158020
010B		996500003144	KNOB REC	409S154010
011B		996500003145	KNOB KEY LOCK	409S154020
015B		996500003146	KNOB REC VOL.KNOB R	409S154030
016B		996500003147	KNOB REC VOL.K L ASSY	409S154540
019B		996500003148	KNOB PHONE VOL.	378V154040
020B		996500003149	CIRCULAR NUT	53218069E0
021B			MASK FOR VOLUME RT02	409S303010
023B			BRACKET HEAD PHONE	409S160040
024B		996500001559	CLAMPER HEAD PHONE	214K005010
027B			SPACER LCD	409S118300
028B			REFRACTOR SEET	409S274010
029B			HOLDER LCD	409S271300
030B			LENS LCD	409S355300
031B			SHEET	409S107300
032B			CONTACTOR RUBBER	409S123010
001F		996500003150	FRAME MAIN	378V401110
002F		996500003151	BRACKET STRAP	378V160040
004F			SHIELD CASE	409S109010
005F			INSULATOR FOR SHIELD CASE	409S120010
006F		996500003152	SPRING LEAF	101C115030
011F		996500003153	SIDE PANEL LASSY	409S249500
012F			SIDE PANEL L	***
013F			LENS	***
014F			BRACKET SIDE L	409S160010
017F		996500003154	SUPPORT STRAP	378V101020
022F			BUFFER FOR CONTACTOR	139C056010
023F			BUFFER FOR CONTACTOR	409S056010
026F		996500003155	SIDE PANEL R	409S249020
029F			BRACKET SIDE R	409S160020
039F		996500003156	TAPE BATTERY EJECT	378V157010
041F	FB		COVER BOTTOM F	378V053230
041F	/00B	996500003157	COVER BOTTOM N	378V053210
041F	UBL		COVER BOTTOM U	378V053220
042F		482246242119	LEG	022D057020
044F		996500003161	COVER BATTERY	378V053030
051F	/00B		LABEL CLASS 1 LASER	***
052F	UBL		LABEL DANGER	***
053F	/00B		LABEL CLASS 3B LASER CAUTION	***
055F			LABEL FUSE CAUTION	***
056F			LABEL FUSE CAUTION	***
001G		996500003162	CASE TOP K	409S064500
002G			CASE TOP	***
003G			BUTTON	***
004G			BUTTON PLAY	***
006G		996500003163	KNOB SLIDE FOR PS01	378V154030
010G		996500003164	KNOB POWER	378V154160
011G		996500003165	KNOB EJECT	378V154260
013G			STICKER W-FACE FOR PQ02	409S122010
014G			COVER FLEXI	409S053020
015G			CHASSIS MECHA	***
016G		996500003166	ARM L	409S002010
017G		996500003167	ARM R	409S002020
018G		996500003168	DAMPER MECHA	409S130010
019G		996500003169	SCREW MECHA	409S010020
020G		996500003170	COVER MD LID	409S053010
021G		996500003171	LEAF SPRING	409S116010
022G		996500003172	WINDOW LID	409S158010
023G		996500003173	LINK	409S121010
024G		996500003174	SPRING LID	409S115010
025G		996500003175	SPRING LINK	409S115020

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
027G			FRAME MECHA FRAME	409S401010
028G			WASHER LINK & MECHA CHASSIS	409S012010
029G			WASHER ARM L & MECHA CHASSIS	409S012020
036G		996500003176	BUFFER MIC BUSH	305H056010
037G			BRACKET SPEAKER	409S160030
040G			LABEL CAUTION	***
041G	UBL		LABEL CLASS3B DANGER	***
			MD MODULE (adjusted) (Refer to "5. HOW TO DISASSEMBLE")	ZZ409S3010
001M		996500003177	MECHANISM	409S304010
			MD MECHANISM KML-252AAA	
			for MD MECHANISM (Refer to "5. HOW TO DISASSEMBLE")	
M01			MOTOR FOR EJECT LOCK	★MM001030R
SW1			SWITCH FOR PICK-UP	★SP000970R
SW2			SWITCH (SHORT)	★SP000950R
SW3			SWITCH (LONG)	★SP000960R
MS01		482224230206	MIC UNIT ECM	MS50000150
MS02		996500003093	SPEAKER 4ohm 0.5W OVAL	QJ00508140
QR01		996500003097	DISPLAY UNIT LM-1658B	HQ21901860
			LCD PANEL FOR PMD650	
WL01			JUMPER LEAD JL01-JY01 FFC 25P 1.25mm	YU25150500
WL02			JUMPER LEAD JL02-JF01 FFC 23P 1.0mm	YU23100500
WL03		482232162293	JUMPER LEAD JL03-JQ04 FFC 26P 1.0mm	YU26100500
WQ02			JUMPER LEAD FFC 0.5mm 16P JQ02-MECKA	YU16040510
WQ03			JUMPER LEAD FFC 0.5mm 10P JQ03-JQ11	YU10040510
			PACKING	
001T	FB		USER GUIDE F	409S851110
001T	/00B	996500003178	USER GUIDE N	409S851310
001T	UBL		USER GUIDE U	409S851250
002Z		482249820097	STRAP	153T156010
005Z		996500003179	CASE BATT.CASE ASSY	377V064500
⚠ 010Z	FB		A.C. ADAPTOR DA600PMDF 13V 1.0A	AA10013040
⚠ 010Z	UBL		A.C. ADAPTOR DA600PMDU 13V 1.0A	AA12013020
			NOT STANDARD SPEAR PARTS	
			CUSHION.	378V809010
			CUSHION LID	378V809020
			PACKING CASE	409S801010
			MASS CARTON	409S805010

NOTE : ***=PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

15. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTORS

R***: 1) GD05 × × × 140, Carbon film fixed resistor, ±5% 1/4W
R***: 2) GD05 × × × 160, Carbon film fixed resistor, ±5% 1/6W
① —— Resistance value

Examples ;
① Resistance value

0.1 Ω 001	10 Ω 100	1 kΩ 102	100 kΩ 104
0.5 Ω 005	18 Ω 180	2.7 kΩ 272	680 kΩ 684
1 Ω 010	100 Ω 101	10 kΩ 103	1 MΩ 105
6.8 Ω 068	390 Ω 391	22 kΩ 223	4.7 MΩ 475

Note : Please distinguish 1/4W from 1/6W by the shape of parts used actually.

CAPACITORS

C***: CERAMIC CAP.
3) DD1 × × × × 370, Ceramic capacitor
② ③ Disc type
Temp.coeff.P350 ~N1000, 50V
③ —— Capacity value
② —— Tolerance

Examples ;
② Tolerance (Capacity deviation)
±0.25 pF 0
±0.5 pF 1
±5% 5
* Tolerance of COMMON PARTS handled here are as follows :
0.5 pF ~ 5 pF .... ±0.25 pF
6 pF ~ 10 pF .... ±0.5 pF
12 pF ~ 560 pF .... ±5%
③ Capacity value

0.5 pF 005	3 pF 030	100 pF 101
1 pF 010	10 pF 100	220 pF 221
1.5 pF 015	47 pF 470	560 pF 561

C*** : CERAMIC CAP.
4) DK16 × × × 300, High dielectric constant ceramic capacitor
④ Disc type
Temp.chara. 2B4, 50V
④ —— Capacity value

Examples ;
④ Capacity value

100 pF 101	1000 pF 102	10000 pF 103
470 pF 471	2200 pF 222	

C*** : 5) ELECTROLY CAP. (⏚), 6) FILM CAP. (⏤)
5) EA × × × × × × 10, Electrolytic capacitor
⑤ ⑥ One-way lead type, Tolerance ±20%
⑥ —— Working voltage
⑤ —— Capacity value

Examples ;
⑤ Capacity value

0.1 μF 104	4.7 μF 475	100 μF 107
0.33 μF 334	10 μF 106	330 μF 337
1 μF 105	22 μF 226	1100 μF 118
		2200 μF 228

⑥ Working voltage

6.3V 006	25V 025
10V 010	35V 035
16V 016	50V 050

6) DF15 × × × 350 → Plastic film capacitor
DF15 × × × 310 → One-way type, Mylar ±5% 50V
DF16 × × × 310 → Plastic film capacitor
⑦ One-way type, Mylar ±10% 50V
⑦ —— Capacity value

Examples ;
⑦ Capacity value

0.001 μF (1000 pF) 102	0.1 μF 104
0.0018 μF 182	0.56 μF 564
0.01 μF 103	1 μF 105
0.015 μF 153	

NOTE : 1) The above CODES (R***, R***, C***, C*** and C ***) are omitted on the schematic diagram in some case.
2) On the occasion, be confirmed the common parts on the parts list.
3) Refer to "Common Parts List" for the other common parts (**RI05, DD4, DK4**).

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows;
1. KOA Corporation

Part No. (MJI)	Type No. (KOA)	Description
NH05 × × × 140	→ RF25S × × × × ΩJ	(±5% 1/4W)
NH05 × × × 120	→ RF50S × × × × ΩJ	(±5% 1/2W)
NH85 × × × 110	→ RF73B2A × × × × ΩJ	(±5% 1/10W)
NH95 × × × 140	→ RF73B2E × × × × ΩJ	(±5% 1/4W)

* Resistance value — Resistance value (0.1 Ω – 10 kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No. (MJI)	Type No. (MEC)	Description
NF05 × × × 140	→ ERD-2FCJ × × ×	(±5% 1/4W)
RF05 × × × 140		
NF02 × × × 140	→ ERD-2FCG × × ×	(±2% 1/4W)
RF02 × × × 140		

* Resistance value — * Resistance value

Examples ;
* Resistance value

0.1 Ω 001	10 Ω 100	1 kΩ 102	100 kΩ 104
0.5 Ω 005	18 Ω 180	2.7 kΩ 272	680 kΩ 684
1 Ω 010	100 Ω 101	10 kΩ 103	1 MΩ 105
6.8 Ω 068	390 Ω 391	22 kΩ 223	4.7 MΩ 475

ABBREVIATION AND MARKS

ANT.	: ANTENNA	BATT.	: BATTERY
CAP.	: CAPACITOR	CER.	: CERAMIC
CONN.	: CONNECTING	DIG.	: DIGITAL
HP	: HEADPHONE	MIC.	: MICROPHONE
μ-PRO	: MICROPROCESSOR	REC.	: RECORDING
RES.	: RESISTOR	SPK	: SPEAKER
SW	: SWITCH	TRANSF.	: TRANSFORMER
TRIM.	: TRIMMING	TRS.	: TRAMSISTOR
VAR.	: VARIABLE	X'TAL	: CRYSTAL

NOTE ON SAFETY :

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意 :

⚠がついている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			P801-BATTERY CONNECT CIRCUIT BOARD	
FB01			FUSE 2.5A 60V CCF1N2.5 TE	FS10250940
			PF01-FRONT CIRCUIT BOARD	
			PF01-CAPACITORS	
CF01		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CF02		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CF04		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CF05		996500003158	TANTL CHIP 4.7µF 16V	EY47501670
CF06		996500003158	TANTL CHIP 4.7µF 16V	EY47501670
CF07		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CF08		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CF09		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
			PF01-RESISTORS	
RF03		482205130479	CHIP 47Ω ±5% 1/16W	NN05470610
RF04		482205130479	CHIP 47Ω ±5% 1/16W	NN05470610
RF07		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RF08		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RF09		996500003098	TRIMM. 20kΩ EVM1S TMC3K	NY02030160
RF10		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
			PF01-SEMICONDUCTORS	
DF02		482213082018	L.E.D. BR1102W	HI10079300
DF03		532213010379	L.E.D. LNJ310M6URA GREEN	HI10086020
DF04		532213010379	L.E.D. LNJ310M6URA GREEN	HI10086020
DF05		532213010379	L.E.D. LNJ310M6URA GREEN	HI10086020
DF06		532213010379	L.E.D. LNJ310M6URA GREEN	HI10086020
DF07				
ʃ		532213083285	CHIP DIODE 1SS322	HZ20031050
DF11				
QF01		996500003095	IC NJU6428CFG1-02 LCD-DRIVER	HC10177090
QF02		996500003096	DIG. TRS. DTC123JE RN1105	BA21105000
QF03		996500003096	DIG. TRS. DTC123JE RN1105	BA21105000
QF04		996500003096	DIG. TRS. DTC123JE RN1105	BA21105000
JF01		996500003094	JACK SFW23R-2STE1	YJ07016930
SF01		996500003099	SLIDE SWITCH SSSS9-1-2 C	SS01020800
SF02		996500001445	PUSH SWITCH TACT SKHMPW	SP01013320
SF03		996500001445	PUSH SWITCH TACT SKHMPW	SP01013320
SF04		996500001445	PUSH SWITCH TACT SKHMPW	SP01013320
SF05		996500003100	SLIDE SWITCH SSST01-3A	SS01021060
			PK01- MAIN CIRCUIT BOARD	
			PK01-CAPACITORS	
CE01				
ʃ		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CE05				
CE08		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CE11		482212441842	ELECT. CHIP 47µF 16V	EY47601620
CE12		482212441842	ELECT. CHIP 47µF 16V	EY47601620
CE13				
ʃ		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CE16				
CE18		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CE20		482212233741	CER. CHIP 10pF ±0.5pF 50V	DD91100300
CE21		482212233741	CER. CHIP 10pF ±0.5pF 50V	DD91100300
CE23		482212233761	CER. CHIP 22pF ±5% CG 50V	DD95220300
CE24		482212233761	CER. CHIP 22pF ±5% CG 50V	DD95220300
CE25		482212233741	CER. CHIP 10pF ±0.5pF 50V	DD91100300
CE26		482212233741	CER. CHIP 10pF ±0.5pF 50V	DD91100300
CE27		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CE28		482212411396	ELECT. CHIP 220µF 4V	EY22700420
CE29		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CE31		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CE32		482212423002	ELECT. CHIP 10µF 16V	EY10601620

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CE39		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CE40		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CE41				
ʃ		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CE44				
CE91		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CE92		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG01				
ʃ		482212441134	ELECT. 10µF 63V	EA10606310
CG04				
CG05				
ʃ		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CG10				
CG11		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG12		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG13		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CG14		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CG15		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CG16		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG17		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG18		996500003159	ELECT. CHIP 10µF 10V	EY10601040
CG19		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG20		996500003160	ELECT. CHIP 22µF 16V	EY22601620
CG21		996500003160	ELECT. CHIP 22µF 16V	EY22601620
CG22		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG23		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG24			CER. CHIP 0.15µF ±10% 25V B	DK56154210
CG25			CER. CHIP 0.15µF ±10% 25V B	DK56154210
CG26		532212611578	CER. CHIP 1000pF ±10% B 50V	DK96102300
CG27		532212611578	CER. CHIP 1000pF ±10% B 50V	DK96102300
CG28			CER. CHIP 1µF 16V B	DK46105200
CG29			CER. CHIP 1µF 16V B	DK46105200
CG30		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG31		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG32				
ʃ			ELECT. CHIP 33µF 10V	EY33601020
CG35				
CG36		482212233777	CER. CHIP 47pF ±5% 50V	DD95470300
CG37		482212233777	CER. CHIP 47pF ±5% 50V	DD95470300
CG38		482212613883	CER. CHIP 220pF ±5% 50V	DD95221300
CG39		482212613883	CER. CHIP 220pF ±5% 50V	DD95221300
CG40		482212233782	CER. CHIP 56pF GR39	DD95560300
CG41		482212233782	CER. CHIP 56pF GR39	DD95560300
CG42		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG43		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG44		482212611671	CER. CHIP 33pF ±5% CG 50V	DD95330300
CG45		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG46		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CG47				
ʃ		482212233777	CER. CHIP 47pF ±5% 50V	DD95470300
CG50				
CG51		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CG52		482212411987	TANTL CHIP 10µF 10V	EY10601070
CG53		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CG54		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CG61		482212612076	CER. CHIP 0.047µF ±10% 16V	DK56473200
CK01				
ʃ		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CK09				
CK10		482212613302	CER. CHIP 8200pF ±10%	DK96822200
CK11		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CK12				
ʃ		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CK23				
CK24		482212611671	CER. CHIP 33pF ±5% CG 50V	DD95330300
CK25		482212611671	CER. CHIP 33pF ±5% CG 50V	DD95330300
CK26		996500001438	ELECT. CHIP 2.2µF 50V	EY22505020
CK27		482212411432	ELECT. CHIP 100µF 10V	EY10701020

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CK28		482212411432	ELECT. CHIP 100μF 10V	EY10701020
CK29		482212411396	ELECT. CHIP 220μF 4V	EY22700420
CK30		482212441842	ELECT. CHIP 47μF 16V	EY47601620
CK31		482212411432	ELECT. CHIP 100μF 10V	EY10701020
CK32			ELECT. CHIP 15μF 10V	EY15601020
CK33		482212233777	CER. CHIP 47pF ±5% 50V	DD95470300
CK34				
⟆		482212611685	CER. CHIP 4700pF ±10% B 50V	DK96472300
CK39			GR39	
CK40		482212411432	ELECT. CHIP 100μF 10V	EY10701020
CK41		482212411432	ELECT. CHIP 100μF 10V	EY10701020
CK42		482212411432	ELECT. CHIP 100μF 10V	EY10701020
CK43		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CK44		532212611583	CER. CHIP 0.01μF ±10% B 25V	DK96103200
CK45		482212233777	CER. CHIP 47pF ±5% CG 50	DD95470300
CK46		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CK47		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CK48				
⟆		482212611671	CER. CHIP 33pF ±5% CG 50V	DD95330300
CK51				
CK52		482212411396	ELECT. CHIP 220μF 4V	EY22700420
CK53			ELECT. CHIP 15μF 10V	EY15601020
CK54		482212411229	ELECT. CHIP 4.7μF 35V	EY47503520
CK55			ELECT. CHIP 1μF 50V	EY10505020
CK56		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CK57		482212613396	CER. CHIP 0.047μF ±10% 16V	DK96473200
CK58		482212613302	CER. CHIP 8200pF ±10% GR39	DK96822200
CK59		482212613302	CER. CHIP 8200pF ±10% GR39	DK96822200
CK60		482212441842	ELECT. CHIP 47μF 16V	EY47601620
CK61		482212612495	CER. CHIP 1500pF ±10% B 50V	DK96152300
CK63		482212612495	CER. CHIP 1500pF ±10% B 50V	DK96152300
CL01				
⟆		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CL04				
CL05		482212411125	ELECT. CHIP 1μF 50V	EY10505020
CL06		482212611663	CER. CHIP 12pF ±5% CG 50V	DD95120300
CL07		482212611663	CER. CHIP 12pF ±5% CG 50V	DD95120300
CL08			CER. CHIP 2pF ±0.25pF 50V	DD90020300
CL09			CER. CHIP 2pF ±0.25pF 50V	DD90020300
CL10		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CL11		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CL12		482212411879	BIG ELECT. 1F 5.5V	EX10500530
CL13		482212411432	ELECT. CHIP 100μF 10V	EY10701020
CL14		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CP01				
⟆		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CP05				
CP06		482212423002	ELECT. CHIP 10μF 16V	EY10601620
CP07		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CP08		482212233761	CER. CHIP 22pF ±5% CG 50V	DD95220300
⚠ CP09		996500003180	ELECT. 560μF 35V RJH	EF56703510
CP10			ELECT. CHIP 47μF 6.3V	EY47600600
CP11			ELECT. 120μF 16V RJH	EF12701610
CP12			ELECT. 39μF 63V RJH	EF39606310
CP13			ELECT. CHIP 47μF 4V	EY47600420
CP14		482212480238	BIG ELECT CAP 0.22F	EX22400520
CP15		482212480238	BIG ELECT CAP 0.22F	EX22400520
CP16		482212441842	ELECT. CHIP 47μF 16V	EY47601620
CP17			ELECT. CHIP 15μF 10V	EY15601020
CP19			ELECT. CHIP 47μF 4V	EY47600420
CP20		482212423002	ELECT. CHIP 10μF 16V	EY10601620
CP21		482212613455	CER. CHIP 180pF GR39	DD95181300
CP25		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CP31		482212411125	ELECT. CHIP 1μF 50V	EY10505020
CP32		482212411125	ELECT. CHIP 1μF 50V	EY10505020
CP92		482212423002	ELECT. CHIP 10μF 16V	EY10601620
CP93		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CZ01		482212613837	CER. CHIP 0.1μF ±10% B 10V	DK96104200
CZ02		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CZ03		482212611687	CER. CHIP 0.1μF +80%-20%	DK98104200
CZ04			CER. CHIP 62pF ±5% CH 50V	DD95620300
CZ05		482212411396	ELECT. CHIP 220μF 4V	EY22700420
			PK01-RESISTORS	
RE01		482205130682	CHIP 6.8kΩ ±5% 1/16W	NN05682610
RE02		482205130682	CHIP 6.8kΩ ±5% 1/16W	NN05682610
RE03		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RE04		482211712891	CHIP 220kΩ ±5% 1/16W	NN05224610
RE05		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RE06		482211712891	CHIP 220kΩ ±5% 1/16W	NN05224610
RE07		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RE08		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RE09		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RE11		482205130474	CHIP 470kΩ ±5% 1/16W	NN05474610
RE12		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RE15		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE16		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE17		482205130101	CHIP 100Ω ±5% 1/16W	NN05101610
RE18		482205130101	CHIP 100Ω ±5% 1/16W	NN05101610
RE19		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RE20		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RE22		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RE23		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RE24		482211712891	CHIP 220kΩ ±5% 1/16W	NN05224610
RE25		482211712891	CHIP 220kΩ ±5% 1/16W	NN05224610
RE26		482205130222	CHIP 2.2kΩ ±1/16W	NN05222610
RE27		482205130222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RE28		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE29		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE30		482211712902	CHIP 8.2kΩ ±5% 1/16W	NN05822610
RE31		482211712902	CHIP 8.2kΩ ±5% 1/16W	NN05822610
RE32		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RE33		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RE37		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE38		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE39		482205130683	CHIP 68kΩ ±5% 1/16W	NN05683610
RE40		482205120106	CHIP 10MΩ ±5% 1/16W	NN05106610
RE45		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE46		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE49		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RE50		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RE51		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RE53		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE54		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE55		482205130392	CHIP 3.9kΩ ±5% 1/16W	NN05392610
RE56		482205130392	CHIP 3.9kΩ ±5% 1/16W	NN05392610
RE61				
⟆		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RE64				
RE91		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE92		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RE93		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RE94		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RE95		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RE96		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG01				
⟆			CHIP 6.8K 1/2W	RI05682120
RG04				
RG05				
⟆		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RG12				
RG13		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RG14		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RG15		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG16		482205130222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RG17		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RG18		482205130561	CHIP 560Ω ±5% 1/16W	NN05561610
RG19		482205130561	CHIP 560Ω ±5% 1/16W	NN05561610
RG20		482205130561	CHIP 560Ω ±5% 1/16W	NN05561610
RG21		482211683819	CHIP 18kΩ ±5% 1/16W	NN05183610
RG22		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RG23		482205130471	CHIP 470Ω ±5% 1/16W	NN05471610
RG25		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG26		482205130683	CHIP 68kΩ ±5% 1/16W	NN05683610
RG27		482205130683	CHIP 68kΩ ±5% 1/16W	NN05683610
RG28		482211712864	CHIP 82kΩ ±5% 1/16W	NN05823610
RG29		482211712864	CHIP 82kΩ ±5% 1/16W	NN05823610
RG30		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RG31		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RG32		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RG33		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RG34		482205130332	CHIP 3.3kΩ ±5% 1/16W	NN05332610
RG35		482205130333	CHIP 33kΩ ±5% 1/16W	NN05333610
RG36		482205130333	CHIP 33kΩ ±5% 1/16W	NN05333610
RG37		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RG38		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RG39		482205130561	CHIP 560Ω ±5% 1/16W	NN05561610
RG40		482205130561	CHIP 560Ω ±5% 1/16W	NN05561610
RG41		482205130272	CHIP 2.7kΩ ±5% 1/16W	NN05272610
RG42		482205130272	CHIP 2.7kΩ ±5% 1/16W	NN05272610
RG43		482205130561	CHIP 560Ω ±5% 1/16W	NN05561610
RG44		482205130561	CHIP 560Ω ±5% 1/16W	NN05561610
RG45				
∫		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RG49				
RG50				
∫		482205130272	CHIP 2.7kΩ ±5% 1/16W	NN05272610
RG53				
RG54				
∫		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG65				
RG66		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RG67		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RG68		482205130561	CHIP 560Ω ±5% 1/16W	NN05561610
RG69		482205130109	CHIP 10Ω ±5% 1/16W	NN05100610
RG70		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG71		482205130101	CHIP 100Ω ±5% 1/16W	NN05101610
RG72		482205130101	CHIP 100Ω ±5% 1/16W	NN05101610
RG73		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG74		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG75		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RG76		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RG77		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG78		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG79		482211683819	CHIP 18kΩ ±5% 1/16W	NN05183610
RG80		482205130105	CHIP 1MΩ ±5% 1/16W	NN05105610
RG81				
∫		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG84				
RG85				
∫		482211712891	CHIP 220kΩ ±5% 1/16W	NN05224610
RG90				
RG91		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RG92		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RG93		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG94		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG95		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG96		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RG97		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RG98		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RG99		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RK01		482205130181	CHIP 180Ω ±5% 1/16W	NN05181610
RK02		482205130181	CHIP 180Ω ±5% 1/16W	NN05181610
RK03		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK04		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RK05				
∫		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK09				
RK10		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RK12				
∫		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK15				
RK16		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RK17		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK18		482205130222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RK19		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK20		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK21		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK22		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RK23		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RK24		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK25		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK26		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK27		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK28		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK29		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RK30		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RK31		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RK32		482205130479	CHIP 47Ω ±5% 1/16W	NN05470610
RK33		482205130479	CHIP 47Ω ±5% 1/16W	NN05470610
RK34		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RK35		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK36		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK37		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK38		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK39		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK40		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK41				
∫		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RK46				
RK47		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RK48		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RK49		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RK50		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK51		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK52		482205130272	CHIP 2.7kΩ ±5% 1/16W	NN05272610
RK53		482211710158	1Ω ±5% 1/4W	GG05010140
RK54		482205210109	10Ω ±5% 1/4W	GG05100140
RK55		482205210109	10Ω ±5% 1/4W	GG05100140
RK56		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RK57		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RK58		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RK59		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RK60				
∫		482211712891	CHIP 220kΩ ±5% 1/16W	NN05224610
RK64				
RK65		482205130562	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RK66		482205130562	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RK67		482205130151	CHIP 150Ω ±5% 1/16W	NN05151610
RK68		482205130151	CHIP 150Ω ±5% 1/16W	NN05151610
RK69		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RK71		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RK72		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RK73		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RK74		482205130154	CHIP 150kΩ ±5% 1/16W	NN05154610
RK75		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RK78		482205130479	CHIP 47Ω ±5% 1/16W	NN05470610
RK79		482205130479	CHIP 47Ω ±5% 1/16W	NN05470610
RK81		482211712891	CHIP 220kΩ ±5% 1/16W	NN05224610
RL01		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RL02		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RL04		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RL05		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RL06		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RL07		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RL08		482205130682	CHIP 6.8kΩ ±5% 1/16W	NN05682610
RL09				
		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RL13				
RL14		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RL15		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RL16		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RL17		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RL18		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RL19		482205130105	CHIP 1MΩ ±5% 1/16W	NN05105610
RL20		482205130103	CHIP 10 kΩ ±5% 1/16W	NN05103610
RL21		482205130474	CHIP 470kΩ ±5% 1/16W	NN05474610
RL22		482211712925	CHIP 47 kΩ ±5% 1/16W	NN05473610
RL23		482211712925	CHIP 47 kΩ ±5% 1/16W	NN05473610
RL24		482205130109	CHIP 10Ω ±5% 1/16W	NN05100610
RL25				
∫		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RL30				
RL31		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RL41		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RP01		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RP02		482205130101	CHIP 100Ω ±5% 1/16W	NN05101610
RP03		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RP04		482205130681	CHIP 680Ω ±5% 1/16W	NN05681610
RP05		482211710833	CHIP 10kΩ ±5% 1/10W	NI01103110
RP06		482211711867	CHIP 91kΩ ±1% 1/10W	NI01913110
RP07		482211710476	CHIP 20kΩ ±1% 1/10W	NM12002010
RP08		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RP09		482211711817	CHIP 1.2kΩ ±5% 1/16W	NN05122610
RP10		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RP11		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RP12		482211710837	CHIP 100kΩ ±5% 1/10W	NI01104110
RP13		482211711867	CHIP 91kΩ ±1% 1/10W	NI01913110
RP14		482205130681	CHIP 680Ω ±5% 1/16W	NN05681610
RP15		482205130101	CHIP 100Ω ±5% 1/16W	NN05101610
RP16		482211710476	CHIP 20kΩ ±1% 1/10W	NM12002010
RP17		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RP18		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RP19		482205311478	4.7kΩ ±5% 2W	GA05047020
RP20		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RP21		482211190908	CHIP 220kΩ ±5% 1/10W	NI05224110
RP22		482205130332	CHIP 3.3kΩ ±5% 1/16W	NN05332610
RP23		482205130331	CHIP 330Ω ±5% 1/16W	NN05331610
RP24		482205130332	CHIP 3.3kΩ ±5% 1/16W	NN05332610
RP25		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RP26		482211683829	CHIP 270Ω ±5% 1/16W	NN05271610
RP27		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RP28		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RP29		482205130563	CHIP 56kΩ ±5% 1/16W	NN05563610
RP30			CHIP 330Ω ±5% 1W	RI05331010
RP31			4.7kΩ ±5% 2W	GA05047020
RP32			CHIP 150Ω ±5% 1/4W	RI05151140
RP33		482211711817	CHIP 1.2kΩ ±5% 1/16W	NN05122610
RP34		482211711817	CHIP 1.2kΩ ±5% 1/16W	NN05122610
RP35		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RP36		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RP37		482205130272	CHIP 2.7kΩ ±5% 1/16W	NN05272610
RP38		482211712925	CHIP 47kΩ ±5% /16W	NN05473610
RP39		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RP40		482205130562	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RP41		482211683829	CHIP 270Ω ±5% 1/16W	NN05271610
RP42		482205130682	CHIP 6.8kΩ ±5% 1/16W	NN05682610
RP43		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RP44		482205130123	CHIP 12kΩ ±5% 1/16W	NN05123610
RP45		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RP46		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RP47		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RP48		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RP49		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RP50		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RP51		482211190892	CHIP 0Ω 2X1.25 ±5% 1/10W	NI05000110
RP52		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RP54		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RP61		482211190896	CHIP 100kΩ ±5% 1/10W	NI05104110
RP62		482211190896	CHIP 100kΩ ±5% 1/10W	NI05104110
RP63		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RP64		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RP65		482211190908	CHIP 220kΩ ±5% 1/10W	NI05224110
RP66		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RP91		482211711449	CHIP 2.2kΩ ±5% 1/10W	NI05222110
RP92		482211711449	CHIP 2.2kΩ ±5% 1/10W	NI05222110
RZ01		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RZ02		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RZ03		482211683339	CHIP 56Ω ±5% 1/16W	NN05560610
RZ04		482205130759	CHIP 75Ω ±5% 1/16W	NN05750610
RZ05		482205130331	CHIP 330Ω ±5% 1/16W	NN05331610
RZ06		482211712139	CHIP 22Ω ±5% 1/16W	NN05220610
RZ07		482211712139	CHIP 22Ω ±5% 1/16W	NN05220610
RZ08		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RZ09		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RZ10		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
			PK01-SEMICONDUCTORS	
DE01		482213081324	CHIP DIODE 1SS302	HZ20018050
DE02		482213081324	CHIP DIODE 1SS302	HZ20018050
DE03		482213080522	CHIP DIODE 1SS300 DAP202U	HZ21006000
DE05		996500003081	CHIP DIODE DAN235U	HZ20019210
DG01		482213081324	CHIP DIODE 1SS302	HZ20018050
DG05				
∫		996500001743	CHIP DIODE 02CZ12-Y	HZ30027050
DG08				
DG09		482213081324	CHIP DIODE 1SS302	HZ20018050
DG10		996500003082	CHIP DIODE MA704WA	HZ20043020
DG11		996500003082	CHIP DIODE MA704WA	HZ20043020
DG12		532213083285	CHIP DIODE 1SS322	HZ20031050
DG21		996500003081	CHIP DIODE DAN235U	HZ20019210
DK01		482213081324	CHIP DIODE 1SS302	HZ20018050
DK02		996500003083	CHIP DIODE MA1S121	HZ20045020
DK03		996500003081	CHIP DIODE DAN235U	HZ20019210
DK04		996500003083	CHIP DIODE MA1S121	HZ20045020
DL01		482213081324	CHIP DIODE 1SS302	HZ20018050
DL02		996500001739	CHIP ZENER DIODE 02CZ6.8Z	HZ30015050
DL03		996500001739	CHIP ZENER DIODE 02CZ6.8Z	HZ30015050
DP01		532213083285	CHIP DIODE 1SS322	HZ20031050
DP02		482213081324	CHIP DIODE 1SS302	HZ20018050
⚠ DP03		532213010383	CHIP DIODE NSQ03A04	HZ20011100
DP04		532213010383	CHIP DIODE NSQ03A04	HZ20011100
DP05				
∫		482213083718	CHIP DIODE EC15QS02L MINI POWER 1.3A	HZ20006100
DP07				
DP08		532213010401	CHIP DIODE EC11FS2	HZ20012100
DP09		996500003117	L.E.D. RED LNJ210C6ARA	HI10085020
DP10		996500003118	CHIP DIODE 1SS154	HZ20005050
DP11		532213083285	CHIP DIODE 1SS322	HZ20031050
DP12		482213081324	CHIP DIODE 1SS302	HZ20018050
DP13		482213081169	CHIP ZENER DIODE 5.6V 02CZ5.6Y	HZ30006050
DP14		482213081324	CHIP DIODE 1SS302	HZ20018050
DP15		996500003119	CHIP DIODE MA8033H	HZ30012020
DP16		482213081324	CHIP DIODE 1SS302	HZ20018050
DP17		532213083285	CHIP DIODE 1SS322	HZ20031050
DP18		482213083718	CHIP DIODE EC15QS02L	HZ20006100
DP45		996500003081	CHIP DIODE DAN235U	HZ20019210
DP91		996500001743	CHIP DIODE 02CZ12-Y	HZ30027050

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
QE01		996500002193	IC TC74HC4066AFT	HC706605Y0
QE02		996500002193	IC TC74HC4066AFT	HC706605Y0
QE03		996500003078	DIG. TRS. DTC115EE	BA20078210
QE04		482220990575	IC NJM2068V	HC10168090
QE05		996500003078	DIG. TRS. DTC115EE	BA20078210
QE06		996500001658	DIG. TRS. RN1113 47K ESM	BA21113050
QE09		482213062662	DIG. TRS. DTC144EE RN1104	BA21104000
QE10		482220990575	IC NJM2068V	HC10168090
QE11		482220990575	IC NJM2068V	HC10168090
QE14		996500003084	CHIP TRS. 2SC1586 GR	HX115861B0
QE15		996500003086	DIG. TRS. DTA114TE RN2111	BA12111000
QE16		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000
QE91				
∫		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
QE94				
QG01		996500003079	IC TC74HC4052AFT	HC705205Y0
QG02		996500003079	IC TC74HC4052AFT	HC705205Y0
QG03		482220990575	IC NJM2068V	HC10168090
QG04		996500002193	IC TC74HC4066AFT	HC706605Y0
QG05		996500002193	IC TC74HC4066AFT	HC706605Y0
QG06		996500003079	IC TC74HC4052AFT	HC705205Y0
QG07		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000
QG08		482220990575	IC NJM2068V	HC10168090
QG09		996500001658	DIG. TRS. RN1113	BA21113050
QG10		482220990575	IC NJM2068V	HC10168090
QG11		482220990575	IC NJM2068V	HC10168090
QG12		482220990575	IC NJM2068V	HC10168090
QG13		996500003084	CHIP TRS. 2SA1586 GR	HX115861B0
QG14		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
QG15		996500001659	DIG. TRS. DTC114TS RN1111	BA21111000
QG16		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000
QG17				
∫		996500001658	DIG. TRS. RN1113	BA21113050
QG20				
QG21		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000
QG22		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000
QG23		996500003084	CHIP TRS. 2SA1586 GR	HX115861B0
QG24		996500003085	DIG. TRS. DTA114YE RN2107	BA12107000
QG25		482213062662	DIG. TRS. DTC144EE	BA21104000
QG26		482213062662	DIG. TRS. DTC144EE	BA21104000
QG27		996500003086	DIG. TRS. DTA114TE	BA12111000
QG28		482213062662	DIG. TRS. DTC144EE	BA21104000
QK01		996500003079	IC TC74HC4052AFT	HC705205Y0
QK02				
∫		482220990575	IC NJM2068V	HC10168090
QK06				
QK07		996500003084	CHIP TRS. 2SA1586 GR	HX115861B0
QK08		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
QK09		532220961872	IC NJM2073M	HC10067090
QK10		996500003080	IC NJM2070M	HC10098090
QK11		996500003086	DIG. TRS. DTA114TE RN2111	BA12111000
QK12		996500003086	DIG. TRS. DTA114TE RN2111	BA12111000
QK13		996500003086	DIG. TRS. DTA114TE RN2111	BA12111000
QK14		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
QK15		482213061425	CHIP TRS. 2SC2873 Y	HX328731B0
QK16		482213063187	DIG. TRS. DTC323TK	BA20048210
QK17		482213063187	DIG. TRS. DTC323TK	BA20048210
QK18		482213063187	DIG. TRS. DTC323TK	BA20048210
QK19		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000
QK20		996500001658	DIG. TRS. RN1113 47K ESM	BA21113050
QK22		482213062662	DIG. TRS. RN1104 DTC144EEA	BA21104000
QK23		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
QK24		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
QK25		996500003086	DIG. TRS. DTA114TE/RN2111	BA12111000
QK26		482213063187	DIG. TRS. DTC323TK	BA20048210
QK27		482213063187	DIG. TRS. DTC323TK	BA20048210
QK29		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000
QK30		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
QL04		482220917172	MICROPROCESSOR TMP93CS44F μ-COM	HU409ST10F
QL05		996500003087	IC S8052ANY-NH-X RESET	HC10089530
QL06		996500003088	IC RS5C372A-E2	HC10036770
QL07		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000
QL08		996500001659	DIG. TRS. DTC114TE RN1111	BA21111000
QL09		996500003089	IC S-81233SGUP-DQF-T2	HC98B33530
QL10		482213062662	DIG. TRS. DTC144EE	BA21104000
QL11		482213062662	DIG. TRS. DTC144EE	BA21104000
QP01		996500003084	CHIP TRS. 2SA1586 GR	HX115861B0
QP02		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
QP03		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
⚠ QP04		996500003126	IC LM2596S-5.0	HC10034360
⚠ QP05		996500003127	IC NJM2360M	HC10153090
⚠ QP06		996500003128	IC LM2586SX-ADJ	HC10032360
QP07		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
QP09		996500003129	IC NJU7201U35	HC98B35090
QP10		482220991016	IC PQ20VZ1U 1A REG.	HC98920320
QP11		482220963385	IC NJM78L05UA REG	HC90005090
QP12		482220990266	IC NJM2904V DUAL OP AMP	HC10173090
QP13		996500003130	TRS. 2SD1802S/T-TL	HT418022B0
QP14		996500003112	DIG. TRS. UMW1N 2	BA21001000
QP15		996500003096	DIG. TRS. DTC123JE RN1105	BA21105000
QP16		996500003131	IC AS-211D NI-CD CHARGE IC	HC10391030
QP17		482213061906	DIG. TRS. DTC114EU	BA20035210
QP19		996500003078	DIG. TRS. DTC115EE	BA20078210
QP20		996500003096	DIG. TRS. DTC123JE RN1105	BA21105000
QP21		482213061541	CHIP TRS. 2SC4116GR	HX341161C0
QP31		996500003132	CHIP TRS. 2SD1006 HK HL	HX410062A0
QP32		482213063929	CHIP TRS. 2SC3324 B	HX333241B0
QP91		482213061425	CHIP TRS. 2SC2873 Y	HX328731B0
QZ01		996500003090	IC SN75176PS	HC10098370
QZ02		482220917194	IC TC7WU04FU	HC700405U0
			PK01-MISCELLANEOUS	
FP01		996500003121	PROTECTOR UNIT POLY SWITCH RXE135	FU13206050
JK02		996500001316	TERMINAL YKC21-3953 GOLD	YT02021500
JL01			JACK FFC CONNEC. S-25 V	YJ07011550
JL02			JACK 23PIN FCC CONNECTOR 52808-2390	YJ07017290
JL03			JACK 26PIN FCC CONNECTOR 52808-2690	YJ07017320
JP02		482226731619	JACK DC JACK 2A	YJ04001060
JZ02		996500002643	JACK 3P CANNON. NC3MAH	YJ01004070
LK01			EMI FILTER ACF321825-101	FM32101010
LK02			EMI FILTER ACF321825-101	FM32101010
LP01		996500003124	CHOKE COIL CHIP L 150μH N06DB151K	LC11540170
LP02		482215770058	CHOKE COIL CHIP L 100μH CD75	LC11044400
LP03		996500003125	CHOKE COIL CHIP L 47μH N08DPA470K	LC14730160
LZ01		482215760178	CHIP INDUCTANCE NL322522-150K	LU12153010
LZ02			EMI FILTER ACF321825-101	FM32101010
LZ03			EMI FILTER ACF321825-101	FM32101010
LZ04		482214881381	PULSE TRANSF. TC-1086-26	TP33842010
SL01		482227613185	PUSH SWITCH L-TYPE NORMALLY OPEN	SP01011920
SZ01		996500003091	SLIDE SWITCH SSAA12-B	SS01021070
XL01		996500003092	CRYSTAL 12.288MHz SMD-49	JX12001350
XL02		482224210255	CRYSTAL 32.768kHz CM200S	JX00002370
XP01		482224211025	CRYSTAL CERALOCK CSTCC4.00MG	JX04006350

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			PK02-PHANTOM CIRCUIT BOARD	
CT05		532212234098	CER. CHIP 0.01µF ±10%	DK56103300
ST01		996500003141	SLIDE SWITCH PHANTOM SSAA22-B	SS02021710
			PQ01-MD CIRCUIT BOARD	
			PQ01-CAPACITORS	
CD01			ELECT. CHIP 33µF 10V	EY33601020
CD02		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CD03		482212411987	TANTL CHIP 10µF 10V	EY10601070
CD11		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CD12		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CD13		482212612339	CER. CHIP 2200pF GR39	DK96222300
CD14		482212612339	CER. CHIP 2200pF GR39	DK96222300
CD15		996500003158	TANTL CHIP 4.7µF 16V	EY47501670
CD16		996500003158	TANTL CHIP 4.7µF 16V	EY47501670
CD17		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CD18		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CD20		482212411987	TANTL CHIP 10µF 10V	EY10601070
CD21		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CD22		482212411987	TANTL CHIP 10µF 10V	EY10601070
CD23		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CD24		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CD25		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CD26		996500003158	TANTL CHIP 4.7µF 16V	EY47501670
CD27		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CD30		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CD31		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CD32		482212423002	ELECT. CHIP 10µF 16V	EY10601620
CD33		482212611568	CER. CHIP 470pF GR39	DK96471300
CD34		482212611568	CER. CHIP 470pF GR39	DK96471300
CD35		482212614256	CER. CHIP 1200pF	DK96122300
CD36		482212614256	CER. CHIP 1200pF	DK96122300
CD51		482212613837	CER. CHIP 0.1µF ±10% B 10V	DK96104200
CQ01		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ02		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ03		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ04		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ05		482212411396	ELECT. CHIP 220µF 4V	EY22700420
CQ06		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ07		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ08		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ09		996500003159	ELECT. CHIP 10µF 10V	EY10601040
CQ10		482212411987	TANTL CHIP 10µF 10V	EY10601070
CQ11		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ12		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ13		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ14		532212611583	CER. CHIP 0.01µF ±10% B 25V	DK96103200
CQ15		532212232654	CER. CHIP 0.022µF ±10% XTR	DK96223200
CQ16		482212411987	TANTL CHIP 10µF 10V	EY10601070
CQ17		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ18		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ19		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ21		482212411987	TANTL CHIP 10µF 10V	EY10601070
CQ22			CER. CHIP 1000pF ±5% CH	DD95102200
CQ23		482212612105	CER. CHIP 0.033µF ±10%	DK96333200
CQ24		532212611582	CER. CHIP 6800pF ±10% GR39	DK96682300
CQ28		996500003102	CER. CHIP 0.068µF ±10%	DK96683200
CQ29		482212611685	CER. CHIP 4700pF ±10% B 50V	DK96472300
CQ30			CER. CHIP 1µF ±10% 16V B	DK46105200
CQ31		996500000599	CER. CHIP 0.22µF ±10% B 10V	DK96224200
CQ32		482212613837	CER. CHIP 0.1µF ±10% B 10V	DK96104200
CQ33		532212611583	CER. CHIP 0.01µF ±10% B 25V	DK96103200
CQ34		482212613837	CER. CHIP 0.1µF ±10% B 10V	DK96104200
CQ35		482212411987	TANTL CHIP 10µF 10V	EY10601070
CQ36		482212411987	TANTL CHIP 10µF 10V	EY10601070
CQ37		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ38		532212611583	CER. CHIP 0.01µF ±10% B 25V	DK96103200
CQ39		532212611583	CER. CHIP 0.01µF ±10% B 25V	DK96103200
CQ42		482212611685	CER. CHIP 4700pF ±10% B 50V	DK96472300
CQ50		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ51		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ54		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ55		482212231765	CER. CHIP 100pF ±5% 50V	DD95101300
CQ56		482212231765	CER. CHIP 100pF ±5% 50V	DD95101300
CQ57		482212231765	CER. CHIP 100pF ±5% 50V	DD95101300
CQ58		532212611583	CER. CHIP 0.01µF ±10% B 25V	DK96103200
CQ59		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ60		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ61		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ62		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ63		532212611583	CER. CHIP 0.01µF ±10% B 25V	DK96103200
CQ64			CER. CHIP 0.47µF ±5% B 16V	DK56474200
CQ65		482212613883	CER. CHIP 220pF ±5% CG 50V	DD95221300
CQ66			CER. CHIP 0.47µF ±5% B 16V	DK56474200
CQ67		482212614581	CER. CHIP 0.015µF ±10% X7R	DK96153200
CQ70		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ71		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ72		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ73		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ74			ELECT. CHIP 22µF 8V	EY22600800
CQ76			CER. CHIP 1000pF ±20% 500V	DK47102500
CQ77		482212611659	CER. CHIP 3pF ±0.25pF CJ50V	DD90030300
CQ78		482212611659	CER. CHIP 3pF ±0.25pF CJ50V	DD90030300
CQ79		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ80		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ81		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ82		482212411131	ELECT. CHIP 47µF 6.3V	EY47600620
CQ84		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ85		482212613837	CER. CHIP 0.1µF ±10% B 10V	DK96104200
CQ90		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ91		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CQ92		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ93		532212611583	CER. CHIP 0.01µF ±10% B 25V	DK96103200
CQ94		532212611583	CER. CHIP 0.01µF ±10% B 25V	DK96103200
CQ95		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CQ96		482212232672	TANTL CHIP 1µF 16V	EY10501610
CU01		482212411436	ELECT. CHIP 220µF 6.3V	EY22700690
CU02		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CU03		482212611659	CER. CHIP 39F ±0.2pF CJ 50V	DD90030300
CU03		482212611659	CER. CHIP 39F ±0.2pF CJ 50V	DD90030300
CU05		482212231765	CER. CHIP 100pF ±5% 50V	DD95101300
CU06		482212231765	CER. CHIP 100pF ±5% 50V	DD95101300
CU07		532212611578	CER. CHIP 1000pF ±10% B 50V	DK96102300
CU08		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CU09		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CU10		482212231765	CER. CHIP 100pF ±5% 50V	DD95101300
CU11		482212231765	CER. CHIP 100pF ±5% 50V	DD95101300
CU20		482212611687	CER. CHIP 0.1µF +80%-20%	DK98104200
CU21		482212411432	ELECT. CHIP 100µF 10V	EY10701020
CU22		482212613837	CER. CHIP 0.1µF ±10% B 10V	DK96104200
CU36		482212613837	CER. CHIP 0.1µF ±10% B 10V	DK96104200
CU37		482212613837	CER. CHIP 0.1µF ±10% B 10V	DK96104200
			PQ01-RESISTORS	
RD01		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RD02		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RD03		482211712968	CHIP 820Ω ±5% 1/16W	NN05821610
RD04		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RD05		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RD11		482205130471	CHIP 470Ω ±5% 1/16W	NN05471610
RD12		482205130471	CHIP 470Ω ±5% 1/16W	NN05471610
RD13		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RD14		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RD22				
∫		482205130101	CHIP 100Ω ±5% 1/16W	NN05101610
RD26				
RD31		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RD32		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RD33				
∫		482205130682	CHIP 6.8kΩ ±5% 1/16W	NN05682610
RD36				
RD37		482205130221	CHIP 220Ω ±5% 1/16W	NN05221610
RD38		482205130221	CHIP 220Ω ±5% 1/16W	NN05221610
RD51		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RD52		482205130223	CHIP 22kΩ ±5% 1/16W	NN05223610
RD53		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RD54		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RD55		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RQ01			CHIP 560Ω ±5% 1/10W	NI01561110
RQ02		482211710833	CHIP 10kΩ ±5% 1/10W	NI01103110
RQ10		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RQ11		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RQ12		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RQ13		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RQ14		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RQ15		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RQ16		482205130335	CHIP 3.3MΩ ±5% 1/16W	NN05335610
RQ17		482205130474	CHIP 470kΩ ±5% 1/16W	NN05474610
RQ18		482205130474	CHIP 470kΩ ±5% 1/16W	NN05474610
RQ19		482205130681	CHIP 680Ω ±5% 1/16W	NN05681610
RQ20		482205110108	1Ω ±5% 1/4W	NX05010140
RQ21			CHIP 2.2Ω ±5% 1/2W	RI05022120
RQ22		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RQ23		482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RQ24		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ25		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ26		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RQ27		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RQ28		482205130332	CHIP 3.3kΩ ±5% 1/16W	NN05332610
RQ29		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ30		482205130332	CHIP 3.3kΩ ±5% 1/16W	NN05332610
RQ31		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ32		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RQ33		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ34		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ35		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ36		482205130222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RQ37		482205130222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RQ38		482205130222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RQ39		482205130101	CHIP 100Ω ±5% 1/16W	NN05101610
RQ40		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RQ41		482205130681	CHIP 680Ω ±5% 1/16W	NN05681610
RQ42		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RQ43		482205130331	CHIP 330Ω ±5% 1/16W	NN05331610
RQ44		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RQ45		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RQ46		482205130101	CHIP 100Ω ±5% 1/16W	NN05101610
RQ47		482211683211	CHIP 1.8kΩ ±5% 1/16W	NN05182610
RQ50		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ51		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ52		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ53		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RQ54		482205130221	CHIP 220Ω ±5% 1/16W	NN05221610
RQ55		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ56		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RQ57		482205130105	CHIP 1MΩ ±5% 1/16W	NN05105610
RQ60		482205130332	CHIP 3.3kΩ ±5% 1/16W	NN05332610
RQ62		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RQ64		482205130102	CHIP 1kΩ ±5% 1/16W	NN05102610
RQ65		482205130151	CHIP 150Ω ±5% 1/16W	NN05151610
RQ66		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RQ67		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RQ68		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RQ70		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RQ71		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RQ72		482211712925	CHIP 47kΩ ±5% 1/16W	NN05473610
RQ73		482205110108	1Ω ±5% 1/4W	NX05010140
RQ74		482205110108	1Ω ±5% 1/4W	NX05010140
RQ77		482205130105	CHIP 1MΩ ±5% 1/16W	NN05105610
RQ80		482205130222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RQ81		482205130332	CHIP 3.3kΩ ±5% 1/16W	NN05332610
RQ82		482205130153	CHIP 15kΩ ±5% 1/16W	NN05153610
RQ91		482211190892	CHIP 0Ω 2X1.25 ±5% 1/10W	NI05000110
RU01				
∫		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RU13				
RU14		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RU15		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RU20		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RU21		482205130103	CHIP 10kΩ ±5% 1/16W	NN05103610
RU23		482211682487	CHIP 0Ω ±5% 1/16W	NN05000610
RU36		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
RU37		482211713632	CHIP 100kΩ ±5% 1/16W	NN05104610
			PQ01-SEMICONDUCTORS	
DD11		482213081324	CHIP DIODE 1SS302	HZ20018050
DD12		482213081324	CHIP DIODE 1SS302	HZ20018050
DQ10		482213083629	CHIP DIODE DA114	HZ20010210
DQ60		996500003103	CHIP DIODE F1J6 60V 1A	HZ20006070
DQ61		996500003103	CHIP DIODE F1J6 60V 1A	HZ20006070
DQ91		482213081324	CHIP DIODE 1SS302	HZ20018050
QD20		482220917168	IC AK4512 16BIT ADC DAC	HC10021480
QD21		482220930602	IC LM317LM 1.2-37V 0.1A	HC98137360
QD30		482220990575	IC NJM2068V	HC10168090
QD53		482213062662	DIG. TRS. DTC144EE	BA21104000
QD54		482213062662	DIG. TRS. DTC144EE	BA21104000
QD55		482213062662	DIG. TRS. DTC144EE	BA21104000
QD56		482220917194	IC TC7WU04FU	HC700405U0
QQ01		482220917171	IC L88MS33T	HC98503030
QQ02		996500003111	IC S81227SGUP-DQZ-T1	HC98B27530
QQ10		482220917546	IC CXA2523AR	HC10060250
QQ11		482213060862	CHIP TRS. 2SA1576 FQ FR	HX115762A0
QQ12		996500003112	DIG. TRS. UMW1N 2TRS.	BA21001000
QQ13		996500003096	DIG. TRS. DTC123JE RN1105	BA21105000
QQ14		996500003096	DIG. TRS. DTC123JE RN1105	BA21105000
QQ15		482213062599	DIG. TRS. DTA144EE RN2104	BA12104000
QQ16		482213062599	DIG. TRS. DTA144EE RN2104	BA12104000
QQ17		482213042734	CHIP TRS. 2SB798 DL DK	HX207982A0
QQ50		482220917547	IC CXD2652AR	HC10061250
QQ51		996500003113	IC GM71V16400CT-60 16M	HC10086000
QQ52		482220917547	IC TC7S08F	HC700805S0
QQ70		482220917552	IC 74ACT540FT	HC006405K0
QQ71		996500003096	DIG. TRS. DTC123JE RN1105	BA21105000
QQ72		482213063611	CHIP FET 2SJ238	HY10238000
QQ73		482213063468	CHIP FET 2SK1764	HY21764000
QQ77		482220917194	IC TC7WU04FU	HC700405U0
QQ80		482213061627	CHIP TRS. 2SA1577 Q	HX115771A0
QQ81		996500003114	CHIP TRS. 2SC4081 BS	HX340811C0
QQ84		482220917554	IC LB1638M MOTOR DRIVER	HC10378030
QQ85		482213061425	CHIP TRS. 2SC2873	HX328731B0
QQ90		996500003115	IC BH6512FS	HC10196210
QU01		996500001345	MICROPROCESSOR TMP93CW40DF μ-COM	HU409ST00F
QU02		996500003096	DIG. TRS. DTC123JE RN1105	BA21105000
QU20		996500003101	IC AT24C02N-10SI-2.7 2KBIT	HC10028990

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			PQ01-MISCELLANEOUS	
JD01			JACK HED07	YJ07006770
JQ01		996500003104	JACK 0.5mm 22P SFV22R-2STE1	YJ07012590
JQ02		996500003105	JACK 0.5mm 16P SFV16R-1STE1	YJ07010770
JQ03		996500003106	JACK 0.5mm 10P SFV10R-2STE1	YJ07011740
JQ04		996500003107	JACK 1.0mm 26P SFW26R-2STE1	YJ07016960
JQ05		482226531065	JACK 1.25mm 53261-0310 SMD	YJ07006730
JQ20			JACK 1.25mm 53261-0510 SMD	YJ07006750
LQ10 ∫ LQ16		996500003109	FERRITE CORE FB M J2125HM330-T	FC90020100
LQ50		996500003109	FERRITE CORE FB M	FC90020100
LQ60		996500003109	FERRITE CORE FB M	FC90020100
LQ92		996500003110	CHOKE COIL 22μH #7A06V POWER INDUCTOR	LC22230050
SQ01		482227613868	PUSH SWITCH DETECT ESE11SV1	SP01012420
XQ71		996500003116	CRYSTAL 22.5792MHz SMD-49	JX22001350
XU01		996500001597	CRYSTAL CM309S 20MHz	JX20001360
			PQ02-REC CIRCUIT BOARD	
JQ10		996500003108	JACK 0.5mm 6P SFV6R-2STE1	YJ07012580
JQ11		996500003106	JACK 0.5mm 10P SFV10R-2STE1	YJ07011740
			PS01-TOP CIRCUIT BOARD	
			PS01-CAPACITORS	
CY01		482212230043	CER. 0.01μF +80%-20% 50V	DK18103310
			PS01-RESISTORS	
RY01 ∫ RY05			10kΩ ±5% 1/6W	GD05103160
			PS01-SEMICONDUCTORS	
DY04 ∫ DY06		482213032362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
DY11 ∫ DY22		482213032362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
			PS01-MISCELLANEOUS	
JY01			JACK FFC CONNECTOR 25P 9604S-19F	YJ07011180
SY01 ∫ SY12		996500000373	PUSH SWITCH EVQ11L05R H H 5mm 160GF	SP01013370
SY13		996500003133	SLIDE SWITCH SSSF012-S06N0	SS01021090
SY14		996500003133	SLIDE SWITCH SSSF012-S06N0	SS01021090
SY15		996500003134	SLIDE SWITCH SSSF013-S06N0	SS01030350
SY16		996500003134	SLIDE SWITCH SSSF013-S06N0	SS01030350
SY17		996500003135	SLIDE SWITCH SSSF013 ALC/LIMITTER/MANUAL	SS01030370
SY18		996500003134	SLIDE SWITCH SSSF013-S06N0	SS01030350
SY19		996500003136	SLIDE SWITCH SSSF022-S06N0	SS02021680
SY20		996500003136	SLIDE SWITCH SSSF022-S06N0	SS02021680
SY21		482227721764	SLIDE SWITCH SSSF 2-3	SS02030680
			PW01-SPDIF & RC-5 RCA CIRCUIT BOARD	
CT01 ∫ CT04		482212240617	CER. 0.1μF +80%-20% 50V DC	DD38104010
JT03		482229081638	TERMINAL 14X14 RA 1L1P BLK	YT02010790
JT04		996500003137	TERMINAL RCA 1L1P ORG	YT02010830
			PW02-CANNON CIRCUIT BOARD	
CT11		482212240617	CER. 0.1μF +80%-20% 50V DC	DD38104010
CT12		482212240617	CER. 0.1μF +80%-20% 50V DC	DD38104010
JT01		996500002540	JACK NC3FAH2 4P CANON	YJ01004340
JT02		996500002540	JACK NC3FAH2 4P CANON.	YJ01004340
			PW03-PHONE JACK CIRCUIT BOARD	
JT05		996500003138	JACK HLJ5305-01-4170	YJ01004540
			PW05-POWER CIRCUIT BOARD	
ST02		996500003100	SLIDE SWITCH SSST01-3A	SS01021060
			PW06-PLAY VR CIRCUIT BOARD	
RT02		996500003140	VARIABLE PLAY LEVEL VR	RM01031130
			PW07-REC VR CIRCUIT BOARD	
RT01		996500003139	VARIABLE REC LEVEL VR	RM01031140